

LEATH & ROSS'S HOMŒOPATHIC PHARMACIES, 9 VERE STREET, W., And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

Those desirous of
BECOMING AGENTS
are requested

ESTABLISHED 1835.

To apply at

9 VERE STREET,
Wholesale Department.

Our Agents'
GLASS-TOP SHOW CASE,
As it appears open.



TRADE PRICE £4 4s.
CONTENTS REALISE £7 1s. 6d.

THE NEW FAMILY CHEST
Contains 28 Bottles of the most
useful Homœopathic Medicines,
a Guide, giving the treatment of
all common complaints, the uses
of the Medicines, proper doses,
&c. In the lid are the two ex-
ternals most in use, viz., Arnica
and Calendula. It can be fitted
to hold either Pilules or Tinctures.
Price 25/-; trade price, 16/8.

LEATH & ROSS'S WHOLESALE PRICE LIST OF MEDICINES, ETC., PUT UP READY FOR SALE.

PILULES—Medicated any strength up to the 30th potency.

Sixpenny Tubes, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

ECTURES—Any strength up to the 30th potency.

Sixpenny Bottles, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

PILULES—Medicated to any strength up to the 30th potency

Sixpenny Bottles, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

TRITURATIONS—

Sixpenny Bottles, 4/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

PORT ORDERS ARE DESPATCHED WITH THE GREATEST PROMPTITUDE.
Special quotations for large quantities.

LEATH & ROSS'S PROPRIETARY ARTICLES.

BERINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
BLAIN LINIMENT, 1/1½, 2/9 ... 9/6, 22/.
SPHO-MUR. QUININE, or PICK-ME-UP
TINCTURE, 1/1½, 2/9 ... 9/6, 22/.

OSINE, 1/, 1/6, 2/6 ... 8/, 12/, 20/.
ISEPTIC TOOTH TINCTURE, 1/, 1/6, 2/6 ... 8/, 12/, 20/.

NEURALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
GLYKALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
ODONTALGIC ESSENCE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

OZONIZED OIL, 1/, 1/6, 2/6 ... 8/, 12/, 20/.
HAIR RESTORER, 1/6, 2/6, 4/6 ... 12/, 20/, 36/.

Agents' Counter Cases, £2/2/0, £3/3/0, £4/4/0, £6/6/0, and £10/10/0.

LEATH & ROSS, LONDON.

The price of VASELINE is now so low, and its value so universally recognised, that it is coming into general use in Medicine, Pharmacy, and the Arts.

In 1-lb. Tins, 1s. 3d.; 5-lb. Tins, 1s. per lb.

As a natural consequence of its popularity, imitations are being manufactured, and in some cases sold, by unscrupulous parties as Vaseline—and Vaseline is also adulterated with Paraffin Wax and other matter. To prevent these frauds, we beg to inform Purchasers that our Name and Registered Trade Mark "VASELINE" is stamped on every Tin, and we shall be much obliged for any evidence which will enable us to prosecute anyone resorting to these practices.

Imitations of Vaseline can be readily distinguished by their grainy or crystalline structure and acrid or paraffin taste and odour.



As an emollient, Vaseline is superior to any other substance yet discovered. Its marvellous healing and restoring qualities excel everything else, and it is rapidly taking its place on the toilet table to the exclusion of the various complexion powders, pomades, cosmetics, and other compounds. It will keep the skin clearer, softer, and smoother than any cosmetic ever invented, and will preserve the youthful beauty and freshness of the healthy complexion.

Endorsed by the entire Medical Press of England, France, Germany, America, &c. In general use in Hospitals, and recommended by the most distinguished Physicians, Surgeons, and Chemists throughout the world.

Pamphlets containing these editorials and recommendations post free.

We beg to call attention to the following Net Price List of our Vaseline Preparations:—
FOR MEDICINAL USE.

VASELINE (PURE). Bottles, in Fancy Card Cases, 2 sizes, 8s. and 16s. per dozen. In Boxes (wood) of 1 dozen and of $\frac{1}{2}$ dozen each.

VASELINE CONFECTIONS. For internal use. Pulmonary and other complaints. In Fancy Paper Box, 8s. per dozen.

FOR TOILET USE.

POMADE VASELINE will make the Hair grow when nothing else will. It keeps the Scalp free from Scurf and Dandriff. Contains no animal matter, and can never become rancid. In 3 sizes. Bottles, in Cardboard Boxes, 8s., 16s., and white in colour, superior Perfumed, glass stoppers, 33s.

VASELINE HAIR TONIC. A liquid preparation of Petroleum for Ladies' use. Bottles, enclosed in Cardboard Cases, 36s. per dozen.

VASELINE COLD CREAM, for the Complexion and use after shaving, chafing of infants, &c. Glass Pots, 8s. and 16s. per dozen.

VASELINE CAMPHOR ICE, for the Lips, Pimples, Blotches. 8s. per dozen.

VASELINE TOILET SOAP, Emollient, Antiseptic, Healing. 2 sizes. 4s. per dozen net, and 9s., less 15 per cent. discount.

VASELINE TAR SOAP, One size. 9s., less 15 per cent. discount.

VETERINARY VASELINE for Diseases of Animals, also for smearing guns, arms, instruments, &c., to prevent rust. 1-lb. tin, 1s.; 5-lb. tin, 10d. per lb.

The following standard Ointments compounded with Vaseline as a base will be found superior to any others. They can be kept without deterioration until used up:—

Unguentum Hydrargyri ($\frac{1}{2}$ MERCURY—MERCURIAL OINTMENT).

Unguentum Zinci Oxidi.

Unguentum Hydrargyri Nitratis (CITRINE OINTMENT).

Ceratum Resinæ.

Ceratum Plumbi Subacetatis (GOULARD'S CERATE).

Pomat Camphoratum, Fr.

Cerat Simplex (WHITE).

In
1 lb.
Jars,
2s. 6d.
per
Jar.

Price List, with full particulars of Medicinal, Pharmaceutical, and Toilet Preparations of Vaseline, free by post.

MANUFACTURED ONLY BY THE

CHESEBROUGH MANUFACTURING CO.

(NEW YORK),

41 HOLBORN VIADUCT, LONDON, E.C.

REGISTERED

Silver Medal,
Paris, 1878.

ALLEN & HANBURY'S

Highest Award.
Philadelphia, 1876.

PURE COD LIVER OIL

N.B.—This Oil is made from fresh and selected livers at our own Factory at Longva, Norway. We can therefore guarantee its absolute purity, also that it will remain clear at a temperature of 32°.

In Half-gallon Winchester and in Stone or Tin Bottles, 8s. per Gallon; 1 dozen Winchester 3d. less; in 25-Gallon Tin-lined Casks, 7s. 3d. per Gallon.

TONGA, The Specific for Neuralgia.

4s. 6d. Size, 46s.; 11s. Size, 114s. per dozen. Handbills for distribution on application.

SILVER MEDAL, PARIS, 1878.

REVISED PRICE LIST OF

JUJUBES

PREPARED BY

PATENT PROCESS.

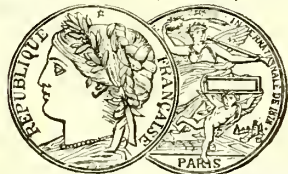
A. & H.

TRADE



MARK.

A.D. 1715.



		1 lb. size.	1/- size.	6d. size.		1 lb. size.	1/- size.	6d. size.
ANISEED LIQUORICE		Per doz.	Per doz.	Per doz.		Per doz.	Per doz.	Per doz.
BLACK CURRANT		30/-	8/-	4/-		32/-	8/6	4/4
DELECTABLE		"	"	"		"	"	"
EXTRACT OF MALT		"	"	"		"	"	"
GLYCERINE		"	"	"		"	"	"
LICHEN		"	"	"		"	"	"
LIQUORICE		"	"	"		"	"	"
MAGNUM BONUM		"	"	"		"	"	"
PECTORALE		"	"	"		"	"	"
PINE (Pâte de Jujube)		"	"	"		"	"	"
RASPBERRY		"	"	"		"	"	"
ROSE		"	"	"		"	"	"
TAMARIND		"	"	"		"	"	"
VIOLET		"	"	"		"	"	"
VOICE		"	"	"		"	"	"

JUJUBES,
2/-
PER LB.,
or in tin
boxes.

PASTILLES,
2/2
PER LB.,
or in tin
boxes.

All the above tins are neatly wrapped ready for sale. The One Pound Tins are returnable at 6/- per doz.

GUIMAUVE, cut into Cubes	2/6	36/-	8/-	not supplied
GUIMAUVE PASTILLES	PER LB.			
GUIMAUVE SHEETS	2/-			
	PER LB.			

PECTORAL FRUIT PASTILLES.

(Registered.)

A bronchial and pulmonic Jujube of delicious flavour.

Sold only in round boxes, to retail at 1/-, 1/9, and 3/- each; 9/-, 16/-, and 27/- per doz.

GUIMAUVE PASTILLES (Crystallized)	2/6 per lb.	The two can be had mixed. Various assorted or mixed.
" (Rose)	2/6 per lb.	
CRYSTALLIZED FRUIT PASTILLES	2/- per lb.	
CRYSTALLIZED VOICE JUJUBES	2/- per lb.	

MEDICATED THROAT PASTILLES.

Prepared as originally suggested by Dr. PROSSER JAMES,

Lecturer on Materia Medica and Therapeutics, London Hospital; Physician to the Hospital for Diseases of the Throat, &c.

- 1.—Morphia. ($\frac{1}{30}$ of a grain.)
- 2.—Ipecacuanha. Are readily taken by children. These Pastilles are of the same strength as the B.P. lozenges.
- 3.—Morphia and Ipecacuanha. ($\frac{1}{30}$ grain Morphi, and $\frac{1}{4}$ grain Ipecac.)
- 4.—Compound Morphia and Ipecacuanha. A more active remedy than No. 3. ($\frac{1}{30}$ grain Morphi, $\frac{1}{2}$ Ipecac., $\frac{1}{2}$ Squill, &c.)
- 5.—Opium and Belladonna. An agreeable substitute for the Troch. Opi B.P., and of the same strength.
- 6.—Aconite. Each Pastille equivalent to half a drop of the B.P. tincture.
- 7.—Compound Camphor or Voice.
- 8.—Chlorate of Soda. May be taken whenever the throat is uneasy.
- 9.—Lithia. An agreeable mode of taking this alkali. Each Pastille contains 1 grain.
- 10.—Benzoated Voice. Useful to public speakers, &c. Less active than the Compound Camphor, No. 7.
- 11.—Chlorate of Potash. A more agreeable form than the lozenge of the Pharmacopœia.
- 12.—Chalybeate. (Pastilli Ferri, A. & H., 1 grain Citrate of Iron.) An agreeable form of lozenge, readily taken by children.

These Pastilles are supplied in 1-lb. Bottles at 36/- per dozen, the Bottles returnable at 6/- per dozen; and in Boxes containing three ounces, to retail at 1/- each, 8/- per dozen.

Circulars showing Doses, &c., for distribution amongst Medical Men, supplied on application.

ALLEN & HANBURY'S,

PLOUGH COURT, 37 LOMBARD STREET, LONDON, E.C.

General List of Drugs, Chemicals, &c., posted free on application.

BY HER
MAJESTY'SROYAL
LETTERS PATENT.

ARNOLD & SONS' CLINICAL THERMOMETERS.

5/6

ARNOLD & SONS' HOSPITAL CLINICAL THERMOMETER, in improved Ebony Case (4 inch), No. 4	s. d.
Ditto, ditto, with MAGNIFIED or INDESTRUCTIBLE INDEX, ditto, No. 4	5 6
ARNOLD & SONS' PATENT POCKET CLINICAL THERMOMETER, in ALUMINIUM CASE, No. 3	7 0
Ditto, ditto, in GERMAN SILVER CASE, No. 2	7 6
Ditto, ditto, in STERLING SILVER HALL-MARKED CASE, No. 1	10 6
Nos. 1 and 2 can be fitted with Magnified or Indestructible Indices (if preferred) at the same prices.	12 6

5/6

ARNOLD & SONS, Instrument Makers, 35 & 36 West Smithfield, LONDON, E.C.

THE VAPORIFIER.

5s. & 7s. 6d.

ARNOLD & SONS' PATENT VAPORIFIER,
BRONCHITIS KETTLE, INHALER, AND
VAPOUR BATH COMBINED.

As suggested by W. L. SHEPARD, M.R.C.S., etc.

Vide *The Lancet*, Jan. 11, 1879; *British Medical Journal*, Feb. 8, 1879; *Medical Times and Gazette*, April 12, 1879.

Extract of Letter received from J. F. FINCHETTE, Esq., Portland House, Brunswick Square, W., dated Feb. 18, 1879.
 "The 'Vaporifer,' all complete, came to hand safely on Saturday last, with thanks, and I consider it a marvel of cheapness and utility, and wish DR. SHEPARD, all success with his invention, which, I feel assured, only needs to be known to be appreciated. I have tried it for each of the purposes for which it is intended, and found it answer completely."

Trade Price, 42s. per doz. Retail Price, 5s. With Lamp, Saucepan, and Stand complete, 63s. per doz. Retail Price, 7s. 6d.

SOLE MANUFACTURERS
AND PATENTEES—

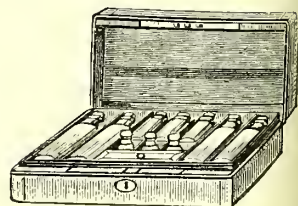
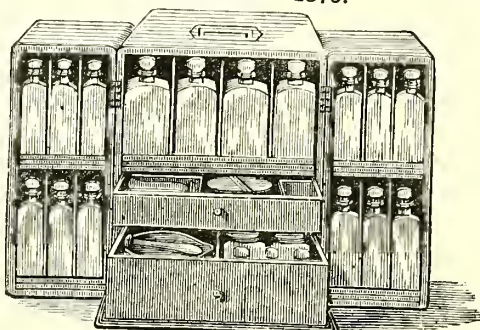
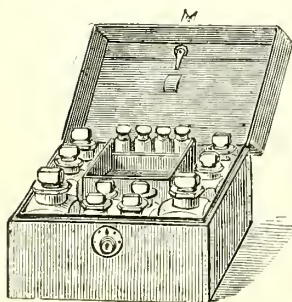
ARNOLD & SONS, Instrument Makers,
 By Appointment to Her Majesty's Government, St. Bartholomew's Hospital, and the Principal Provincial and Colonial Hospitals, &c.
 35 & 36 WEST SMITHFIELD, LONDON, E.C.

MEDICINE CHESTS.

A. H. SMITH,

MEDICINE CHEST MANUFACTURER,
DANBY STREET, PECKHAM, LONDON, S.E.

REMOVED FROM
 4 FEATHERSTONE BUILDINGS, HOLBORN, LONDON, W.C.,
 ESTABLISHED 1875.



A. H. S. invites attention to his ILLUSTRATED CATALOGUE AND PRICE LIST, containing nearly 100 Designs, which is forwarded post free upon application.

N.B.—Always having a Large Stock on hand any Chest shown in the Book of Illustrations may be obtained immediately by quoting the number of the Design by Post or Telegram. Medicine Chests of all descriptions made to order.

LIBERAL TERMS TO WHOLESALE HOUSES, EAST INDIA AND COLONIAL AGENTS, ETC., ETC.

PRIZE MEDAL,



LONDON, 1862.

NOTICE TO THE TRADE.

JANUARY, 1881.

PRIZE MEDAL,



PHILADELPHIA, 1876.

LOW'S FLOWER EXTRACTS, &c.,

ARE NOW REDUCED IN PRICE, AS BELOW:—

	per lb.		per lb.		per lb.
Ext. Cassie	9/6	Ext. Rezeda	9/6	Ext. Tubereuse	9/6
„ Jasmin	9/6	„ Rondeletia	8/-	„ Violet	15/-
„ Jonquil	9/6	„ Rose	9/6	„ Verbena	8/-
„ Lily of the Valley ...	9/6	„ Rose Geranium ...	9/6	„ White Rose	10/6
„ Magnolia	9/6	„ Spring Flowers ...	9/6	„ White Lilac	9/6
„ Orange Flower	9/6	„ Stephanotis	9/6	„ Wood Violet	13/6
„ Patchouli	9/6	„ Sweet Briar	9/6	„ Wild Rose	9/6
„ Queen of the Alps ...	9/6	„ Tea Rose	9/6	„ Ylang Ylang	9/6

These Extracts have always had the highest reputation; they are all of our own manufacture, are guaranteed **pure**, and of **triple strength**, and will compare favourably with any in the Trade.

N.B.—Owing to the failure of the **VIOLET** crop, however, this Extract is advanced in price, and will probably go higher still. Purchasers are warned against the spurious Ext. Violets already in the market.

LOW'S COMPOUND PERFUMES,

For Dilution by the Trade, are the Strongest in the Market, viz.:—

ESS. BOUQUET, JOCKEY CLUB, & FRANGIPANNI.

Price 14/- per lb.; or 13/- in Winchester Quarts.

LOW'S NURSERY SOAP.

This Soap is the result of considerable study and many experiments, the object desired being to produce a **soap** that would be **quite neutral**, and thus innocuous to the most tender skin, yet one that would lather freely, and not waste quickly away.

Price 33/- per Gross; or 11/- per doz. Boxes of 4 Tablets.

FAMILY BROWN WINDSOR SOAP,

At 60/- per cwt., Genuine, and Sweetly Perfumed.

This Soap is recommended to the Trade as the best value that can be obtained. Embossed Squares, 6 to lb., and in 14-lb Boxes.

CASH DISCOUNT, 10 PER CENT.

R. LOW, SON & HAYDON,

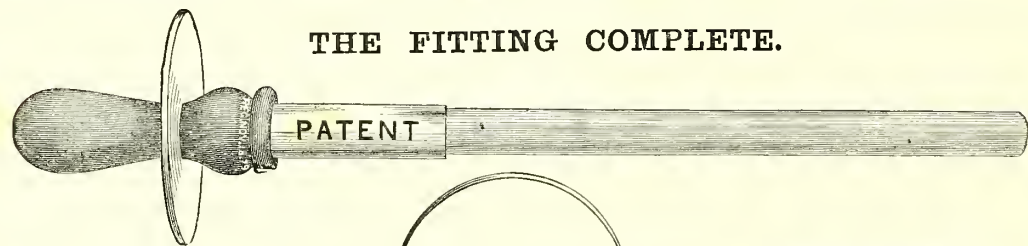
Perfumers, Toilet Soap Makers, and Brush Manufacturers,

330 STRAND (OPPOSITE SOMERSET HOUSE) LONDON.

S. MAW, SON & THOMPSON'S IMPROVEMENT IN FEEDING BOTTLES.

Patented in England, December 4, 1879;
Patented in the United States, April 27, 1880.

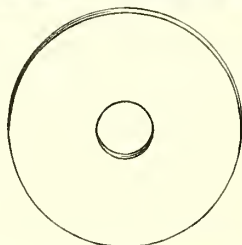
THE FITTING COMPLETE.



PORCELAIN

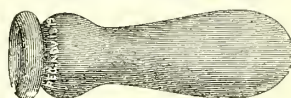


COUPLING-PIECE.

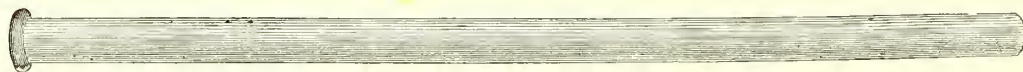


PATENT INDIA-RUBBER TUBE.

REGISTERED



INDIA-RUBBER TEAT.



Patent India-rubber Tubes, in $\frac{1}{2}$ gross and 1 gross Boxes—

9 inch White	per gross, 10/6	9 inch Black	per gross, 15/-
10 " " super	16/	10 " " " " " " " "	16/-

Registered India-rubber Teats, in 1 doz. Boxes—

2 Sizes (Small and Medium), per gross, White, 8/ & 14/; Black, 12/ & 21/-

Patent Coupling-pieces, in 3 doz. Boxes per gross, 8/-

S. MAW, SON & THOMPSON beg to inform the Trade that in future all their Feeding Bottles, except Sixpenny, will be fitted with the above **PATENTED IMPROVEMENT**, unless ordered to the contrary.

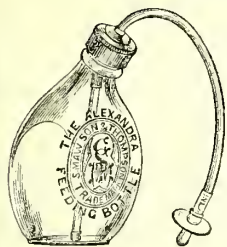
The improvement consists in the introduction of the New Registered Teat, and in the construction of the Coupling-piece, the latter **passing over** the **exterior** of the India-rubber Tube, by which arrangement injurious contraction is avoided, and the cleaning of the Tube facilitated, a Tube Brush being easily passed through without the removal of the Coupling-piece.

In the fitting-up of ordinary Feeding Bottles, the Shield fixes the Teat upon the Union Joint, preventing its easy removal, and making it difficult to replace the Teat in its air-tight position, without which the action of no Feeding Bottle is perfect. The New Registered Teat is so formed as to receive the Shield and retain it in position without connection with the Coupling-piece, the Teat thus being easily removed and replaced without damage.

S. MAW, SON & THOMPSON, LONDON.

S. MAW, SON & THOMPSON'S

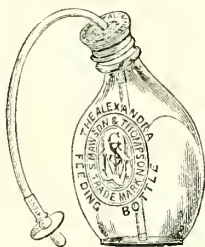
FEEDING BOTTLES.



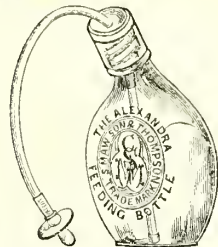
Alexandra Feeding Bottle,
Screw Metal Cap,
11/ per doz.



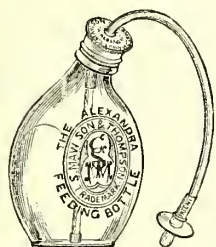
Alexandra Feeding Bottle,
Gilt Porcelain Cap,
20/ per doz.



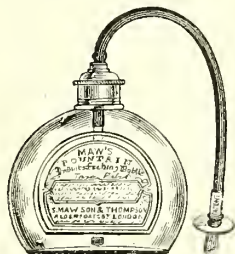
Alexandra Feeding Bottle,
Earthenware Cap,
10/ per doz.



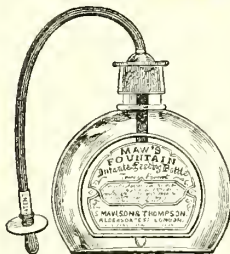
Alexandra Feeding Bottle,
Screw Glass Stoppers,
10/3 per doz.



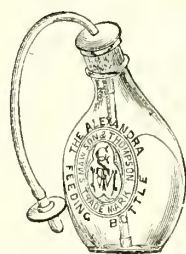
Alexandra Feeding Bottle,
Earthenware Cap,
7/6 per doz.



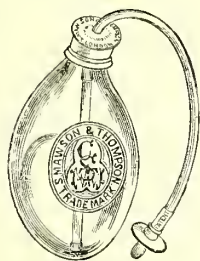
Fountain Feeding Bottle,
Pure Tin Mount,
20/ per doz.



Fountain Feeding Bottle,
Pure Tin Mount,
12/ per doz.



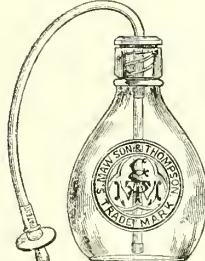
Alexandra Feeding Bottle,
Wood-Top Cork,
3/9 per doz.



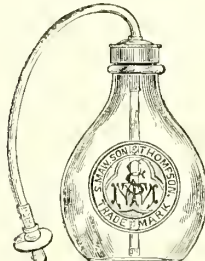
Oval Feeding Bottle,
Earthenware Cap,
7/6 per doz.



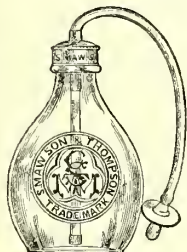
Export Feeding Bottle,
Earthenware Cap,
7/3 per doz.



Export Feeding Bottle,
Screw Glass Stopper,
7/6 per doz.



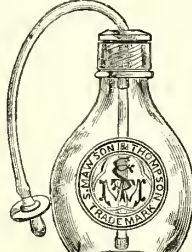
Export Feeding Bottle,
Screw Metal Cap,
8/6 per doz.



Export Feeding Bottle,
Metal Cap,
4/3 per doz.



Export Feeding Bottle,
Wood-Top Cork,
3/6 per doz.



Export Feeding Bottle,
Screw Glass Stopper,
4/3 per doz.



Export Feeding Bottle,
Screw Metal Cap,
4/6 per doz.

FOR FURTHER PARTICULARS SEE QUARTERLY PRICE CURRENT, PAGES 53, 54.

S. MAW, SON & THOMPSON,

7 to 12 Aldersgate Street, London.

OZOKERINE

(REGISTERED).

A New Preparation PERFECT as a BASIS for OINTMENTS, of admirable consistency, bland, emollient, antiseptic, and healing.

CANNOT BECOME RANCID.

"Moderate in price, and deserving a careful trial."—BRITISH MEDICAL JOURNAL.

"A valuable and useful substance, and will in all probability be very largely used."—MEDICAL TIMES AND GAZETTE.

"Will take a high position among our other pharmaceutical preparations."—MEDICAL PRESS AND CIRCULAR.

"Likely to prove useful as a dressing for wounds and excoriations."—PRACTITIONER.

OZOKERINE is a clear, pale yellow, very slightly fluorescent body, composed of hydrocarbons akin to Paraffine in their chemical characters. It has been used with remarkable success as a simple dressing for wounds, its mild and healing properties rendering it peculiarly grateful to the patient.

OZOKERINE is unsurpassed as an unguent basis; *unchangeable* in itself, except by the action of the most powerful chemical agents, it preserves other bodies with which it may be incorporated from all tendencies to decomposition. The superiority of Ozokerine to lard in this respect cannot be over-estimated.

Each Tin is stamped on the lid with the words "FIELD'S OZOKERINE, REGISTERED," without which none is genuine.

Made only by J. C. & J. FIELD.

The Price Reduced to 1s. per lb. in 1 lb. Tins, and 11d. per lb. in 7 lb. Tins.

To be obtained of all Wholesale Houses in the United Kingdom and the Colonies.

THE CONDY'S FLUID CO.,

7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR FIRM AND GENUINE PRIZE MEDAL LABELS, WITH FICTITIOUS ADDRESSES.

TRADE

MALTINE.

MARK

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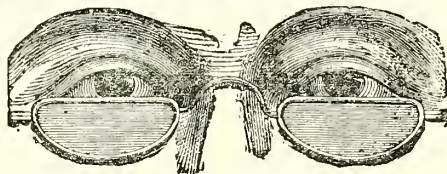
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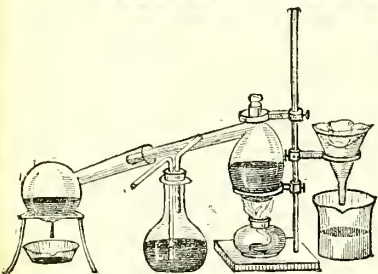
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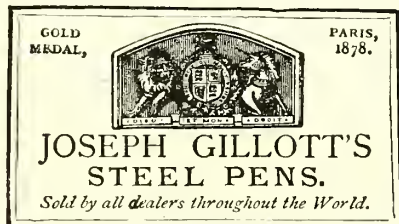
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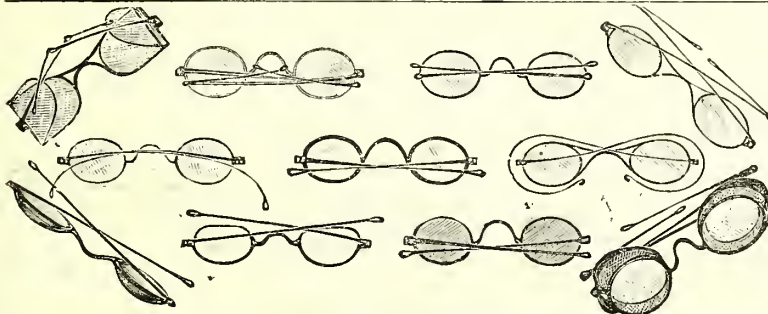
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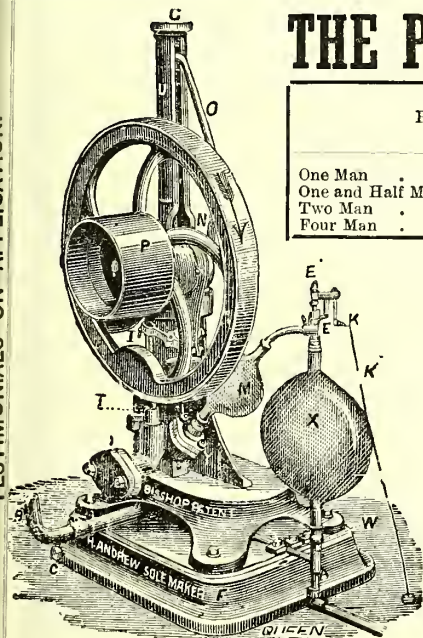
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FOR DISPOSAL, under exceptionally advantageous circumstances, a Chemists and Druggists' Business; old-established, and capable, with attention, of material increase; this opening presents an especial opportunity to an energetic man of good address. Apply Widow, care of Pooley & Co., Auctioneers and Valuers, 76 Queen Street, Cheapside, London.

CHEMIST'S COUNTRY BUSINESS, wanted to purchase, or would entertain a bona fide Partnership; must bear strict investigation. Apply, with full particulars, price, turnover, and last three years' annual profits to "Oxonian," care of Pooley & Co., Auctioneers and Valuers, 76 Queen Street, Cheapside, London.

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CARLISLE.—A good Business for Sale; light, retail, and agricultural; average returns from £500 to £700; rent £59; house portion at present sub-let for £39; satisfactory reasons for disposal; price £600, or valuation. Apply to C. L., care of Clay, Dod & Case, 52 St. Anne Street, Liverpool.

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WANTED, immediately, for the Continent, a good Assistant, speaking French. Address, G. B., Office of THE CHEMIST AND DRUGGIST, 41A Cannon Street, E.C.

APPRENTICE WANTED.—Mr. Richardson, Broad Street, Alresford, has a vacancy for a gentlemanly and well-educated Youth as an Apprentice.

WANTED, immediately, a Junior for the Retail Department (indoors). Apply, stating full particulars, to R. E. Hardy, 3 Catherine Street, Salisbury.

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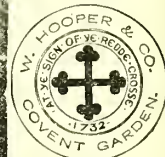
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Mark the result. The public know the genuine and the tricks in trade, and return the Colourable Imitation to the Shopkeeper. They are cautioned in thousands upon thousands of Periodicals, Magazines, &c., almost all Daily and Weekly Newspapers, at Home and Abroad, and thus are dissatisfied with the Retailer, the Retailer with the Traveller, and perchance close the account with the Wholesale.

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May be relied upon to give a permanent Black impression that will not wash out. Below is one of many Testimonials.

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We have for many years used Hooper's Marking Ink for marking linen, &c., and can confidently say that no other ink gives us such satisfaction, or produces so black and permanent an impression without injury to the fabric.



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It possesses in a pre-eminent degree the first essentials of any Marking Ink—Permanence and Blackness—which the experience of a quarter of a century has proved. The Ink is fluid and never dries up in the bottles, which is the case with most of the Marking Inks in use at present. When once introduced it is a source of satisfaction to the pharmacist and the customer.



Sold in 1/- Card Cases, at 5/6 per doz.; 1/- Wood Cases, 6/6 per doz.; and in 6d. Bottles, 3/- per doz.

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May be obtained through Messrs. BARCLAY & SON; Messrs. NEWBERRY & SONS, Newgate Street; Messrs. MAW & SON; Messrs. B. HOOPER & CO., London Bridge, and most of the leading Wholesale Houses; and direct from Proprietor,

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PURE WHITE GLYCERINE SOAP.

ly perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which it is so justly famed. 1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

SELECT TOILET PREPARATIONS, extensively increasing in demand, which attests their excellent quality.

TOILET SOAPS. Per doz.			BOUQUETS. Per doz.			POMADES, &c. Per doz.		
Cent-Fleur (copyright)	2/6	Boxes of 3 tablets	20/	Cent-Fleur (copyright)		Cent-Fleur (copyright)	... 8/	12/ & 20/
Jockey Club Bouquet...	1/6	"	12/	Jockey Club Bouquet...		Petroleum Pomade	... 12/	& 18/
Ess Bouquet ...	1/6	"	12/6	Ess Bouquet ...	In Glass	Brilliantine	... 8/	12/ & 20/
Frangipanni ...	1/6	"	12/	Frangipanni ...	Stoppered	Anglo Eau de Cologne	... 8/	& 12/
Thye (Thymol) 1/		"	8	Pearl of Perfumes ...	or	Eucalyptus Vinegar	... 12/	& 20/
Cutars	1/	Bars of 6 kinds	8/6	Lime Tree Blossoms ...	Sprinkling	White Cherry Tooth Paste	8/	& 12/
					cap			
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Great popularity of this exquisite Perfume is a proof of its excellence and superior qualities.

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Introduced in 1852.
Trade Mark—"Tower of Refuge, Douglas Bay."

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LIQUID AND POWDER.

ed 1-lb., 1/2-lb., 1/4-lb., and 2-oz. Boxes, 1/2-pint 6d. Bottles, and bulk.

Specimen Boards and Circulars supplied when ordered.

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e Lts of Oil and Spirit Varnishes, Colours, Paints, &c.

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METALLIC POWDER

For Cleaning and Polishing Metals and Glass (especially Brass).

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IVORY GOODS IN GENERAL,
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Worn Ivory Brushes Refilled and polished to look Equal to New.

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BELGRAVIA TOOTH-PASTE

(REGISTERED)

Is entirely different from any article of the kind, very much liked by customers, a most effectual dentifrice, and handsomely put up in large jars,

ONE SHILLING EACH.

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LIBERAL DISCOUNT TO LARGE BUYERS.

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TOILET AND FANCY SOAPS

OF EVERY DESCRIPTION.

CHOICE PERFUMES IN BULK.

No. 1 extra 12/ per pint of 20 ozs.
 No. 1 9/6 " "
 No. 2 8/ " "
Put up also in great variety of size, style, and price.

SOAPS.

Zinc, Sulphur, Petroleum. } 6d. & 1/
 Petroleum, Juniper Tar, & } 4/ & 8/
 other Medicated Soaps. } doz.
 Glycerine Jelly, 6d. and 1/
 stoppered bots., 4/ & 8/
 per doz.

T. F. BRISTOW & CO.
 MANUFACTURERS,
TOILET SOAPS & PERFUMERY.

PRICE
ON APPLICATION

BRISTOW'S SPECIALITIES.

Carbolic Acid Soap. In boxes 3/ & 1/3
 Glycerine and Carbolic Acid . . . 1/ & 12/ per
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 Baby Soap for Nursery use (In boxes, 4 & 11
 (Illustrated Label) 9/ and 27/ per
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 Cold Cream Soap, in boxes, 3 tbs. in box (1/6 & 2/6) . 12/ & 21/
 Stockholm Tar Soap . . . in boxes, 3 tablets in box (1/6) . . 12/
 Pure Coal Tar Soap . . . in 4d., 6d. & 8d. tblts, in 3 doz. boxes, 2/6, 3/6, & 4/6
 Superior Lavender Soap, in boxes, 3 tablets (1/ and 1/6) 8/ & 12/
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RIMMEL'S NEW TRANSPARENT COAL TAR SOAP

Combining the purifying action of tar with the emollient properties of Transparent Soap, in boxes of three cakes.

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THE QUEEN'S SOAP, a Refined Toilet Soap, assorted

Perfumes, Lettuce, Rose, Jockey Club, Cold Cream, Patchouly, &c.

RIMMEL'S TRANSPARENT GLYCERINE SOAP.

In bars, cakes, or balls.

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SOR SOAP, highly fragrant, in Packets of three.

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RIMMEL'S AQUADENTINE, a fragrant floral Extract

for Washing the Mouth and Cleaning and Whiteness the Teeth.

RIMMEL'S PHILOCOME, QUEEN'S POMMADE

and HAIR OILS, warranted to keep in any climate.

RIMMEL'S AUSTRALIAN HAIR WASH. Most com

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RIMMEL'S VIOLET POWDER, in Packets or Bars

RIMMEL'S POUDRE DE RIZ, or Rice Powder, ass

Odours, in 1/2 lb. Pink Wrapper Packages, or in elegant Boxes.

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RIMMEL'S AROMATIC OZONIZER, or Natural

Purifier, a Fragrant Powder, producing in houses or places of re

scent, by simple evaporation, the balmy, refreshing, and health

emanations of the Pine and Eucalyptus Forests. In 4-oz. and 1-lb.

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For Producing a Brilliant Gloss on all kinds of Starched Linen.

LINEN

Muslin Curtains, Dresses, Col-
 lars, Cuffs, and all fine linen fabrics,
 retain their stiffness and snowy whiteness
 much longer, when a little of Harrop's
 Linen Glaze is added to the Starch.
 It can be used with either Cold or Hot
 Water Starch.

Sold in 1d., 3d., 6d., and 1s. Packets, and in Large Boxes for Hotels, Laundries, &c. 5/-, 10/-, and 20/- each. The penny packets are put up on cards, with oleograph centre, of 3 dozen each; wholesale, 1d., 8/-; 3d., 24/-; 6d., 48/-; 1/-, 96/- per Gross. Liberal Discount to Merchants and Exporters. Sells well in warm climates. May be had through most Wholesale Houses, or from the Manufacturer,



REGISTERED TRADE MARK.

GLAZE

One trial will prove its great superiority
 over all other preparations. It prevents
 the Iron sticking to the Linen, and does
 not injure the most delicate article.

SAVES LABOUR.

Indispensable in Every Laundry.

W. H. HARROP, CHEMIST, CREWE, CHESHIRE.

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Write for
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SEND FOR
A
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AS IT IS
GUARANTEED
TO EFFECT
THIS
MARVELLOUS
CHANGE
IN
A FEW WEEKS

Agents Wanted
Everywhere.

SAVILLE'S CAPILLARY GERMINATOR

Is now being supplied to the trade at greatly reduced prices.

Particulars on application.

Acknowledged by the Press and the Public to be the only REAL producer of
 WHISKERS and MOUSTACHES and CURER OF BALDNESS

Hundreds of private Testimonials. Price 9/- per bottle; larger sizes, 4/-, 8/-, and 11/-.

New Circulars and Show Cards just ready, liberally supplied with every order.

Always in stock at all the principal Wholesale, Export, and Shipping Houses, or
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JOHN T. SAVILLE, 146 Regent's Park Road, London, N.W.

CAUTION!—As a natural result numerous imitations are springing up. Note
 that all our bottles are in blue wrapped boxes, and bear above title (registered)
 impressed in the glass.

Dr. C. R. Coffin's AMERICAN DENTIFRICE

Prepared only by WILLIAM DARLING, Chemist, Manchester.
 May be had from S. Maw, Son, & Thompson; Barclay & Sons;
 F. Newbery & Sons; Sanger & Sons; and any Wholesale
 House in London. Price 2s. per Box, and Family Jar 10s. 6d.

OKELL'S ORIGINAL MONA BOUQUET

Retail, 1/-, 1/9, and 3/6; Wholesale, 9/-, 15/-, and 30/- per doz.
 This much-admired Perfume (prepared by the Widow of the late
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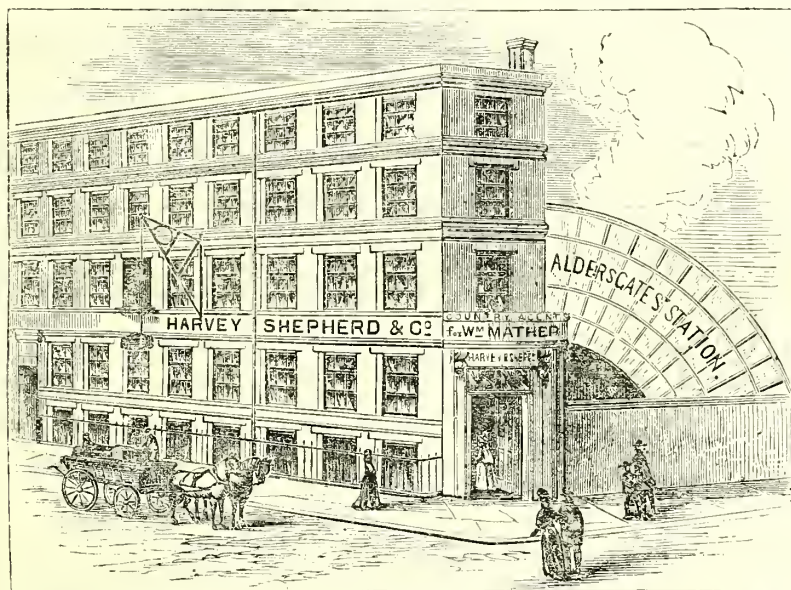
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A Revolution in the Sponge Trade.

The buying and selling of Sponge has hitherto been the most unsatisfactory and unprofitable part of a merchant's business. Buying a case of Sponge was like taking a leap in the dark, as much a matter of chance as taking a dip in a lottery, and it was often a difficult matter to mark off a case of Sponge so as to make a profit.

HARVEY, SHEPHERD & CO.,

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TRADE



MARK.

introduced, and are now supplying, **TURKEY** and **HONEYCOMB SPONGES**, free from sand, without risk of loss or waste, good value, and neatly put up on cards. The Turkey Sponge to retail from 1d. to 5s. each. The Honeycomb Sponge to retail from 10s. 6d. each.

SPONGE	Turkey Sponge								Honeycomb Sponge	
	Retail 1d.	2d.	4d.	6d.	1s.	2s.	2s. 6d.	5s. each.		
	1 dozen.	1 dozen.	1 dozen.	½ dozen.	½ dozen.	½ dozen.	½ dozen.	1-12th dozen on a Card.		
	8/ gross.	16/ gross.	2/8 doz.	4/ doz.	8/ doz.	16/ doz.	20/ doz.	40/ per dozen.		
HONEYCOMB SPONGE	Honeycomb Sponge								Honeycomb Sponge	
	Retail 1d.	2d.	4d.	6d.	1s.	2s.	2s. 6d.	5s.	7s. 6d.	10s. 6d. each.
	1 doz.	1 doz.	1 doz.	½ doz.	½ doz.	½ doz.	½ doz.	½ doz.	1-12th doz.	1-12th doz. on a Card.
	8/ gross.	16/ gross.	2/8 doz.	4/ doz.	8/ doz.	16/ doz.	20/ doz.	40/ doz.	60/ doz.	80/ per dozen.

Honeycomb, Fine Turkey, and Brown Turkey (sanded or sandless), supplied at per 1 lb. or per dozen.

4 & 35 CHARTERHOUSE SQUARE, ALDERSGATE ST., LONDON, E.C.

SPONGES

R. CRESSWELL & CO.,

SPONGE MERCHANTS & IMPORTERS

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AND AT PIRÆUS AND SMYRNA

ESTABLISHED 1850.

The Finest Qualities and Shapes obtainable are quoted below, and the Prices are, without exception, the **LOWEST IN THE MARKET.**

PRICES CURRENT OF SANDED & SANDLESS SPONGES

IN ORIGINAL CASES AS IMPORTED.

HONEY-COMB SPONGES.

No.	Qty.		Pieces in case about.	Price case. £ s. d.
1	1st	Finest selected shapes, assorted sizes	130	12 0 0
2	1st	Do. do. ...	75	7 0 0
3	1st	Do. do. ...	45	4 0 0
4	1st	Small selected shapes ...	275	7 0 0
5	1st	Superior do. large Bath sizes	25	7 0 0
6	2nd	Do. quality shapes, assorted sizes... ..	125	8 0 0
7	2nd	Do. do. do. ...	75	4 4 0
8	2nd	Good quality shapes, small ...	275	3 10 0
9	2nd	Do. do. large Bath sizes	25	5 0 0
10	3rd	Do. do. assorted sizes ...	145	5 5 0
11	3rd	Do. do. do. ...	90	3 10 0
12	3rd	Do. do. large Bath sizes	25	3 0 0
13	4th	For Stable use, &c. ...	125	1 5 0

FINE TURKEY SPONGES.

14	1st	Finest selected Cups, assorted sizes	110	18 0 0
15	1st	Do. do. do. ...	55	10 0 0
16	1st	Do. do. Bath sizes	35	12 0 0

Fine Turkey Sponges—continued.

No.	Qty.		Pieces in case about	Price case. £ s. d.
17	2nd	Superior Cups, assorted sizes ...	110	12 0 0
18	2nd	Do. do. ...	55	7 0 0
19	2nd	Do. Bath sizes ...	35	9 0 0
20	3rd	Fine Cups, assorted sizes ...	110	9 0 0
21	3rd	Do. do. ...	65	5 0 0
22	3rd	Do. Bath sizes ...	35	7 0 0
23	1st	Turkey Solids, assorted sizes ...	115	7 0 0
24	2nd	Do. do. ...	110	5 0 0
25	1st	Flat Saddle, assorted sizes ...	55	9 0 0
26	1st	Do. do. ...	35	6 0 0
27	2nd	Do. do. ...	55	6 0 0
28	2nd	Do. do. ...	35	4 0 0

BROWN TURKEY SPONGES

29	1st	Finest selected, assorted sizes ...	140	4 0 0
30	1st	Do. do. ...	75	2 0 0
31	2nd	Superior quality, do. ...	140	3 0 0
32	2nd	Do. do. ...	75	2 0 0
33	3rd	Slate quality, do. ...	350	1 0 0

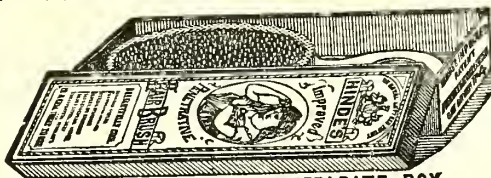
The above may be had Sanded or Sandless, as required.

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HENDE'S PATENT WIRE HAIR BRUSH.

Silvered Wires and Rings of Bristle.

Indoubtedly the only perfect Wire
in the market. Made in
variety of prices and patterns.
Superior to other Wire Brushes



EACH BRUSH PACKED IN A SEPARATE BOX.

which, with TINNED Wires, are
claiming the speciality of the
"Silvered Wire Brush," without
its value and advantages.

Authorised by H.R.H. the Prince of Wales; H.I.H. the late Louis Napoleon; the Rt. Hon. W. E. Gladstone, M.P.

CHEAPER AND MORE DURABLE THAN BRISTLE; PLATED WIRES, AND WILL NOT SCRATCH.

to be had of all Important Wholesale Houses in London, Birmingham, Manchester, and Glasgow.

THE CONDY'S FLUID CO.,

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FIRM AND GENUINE PRIZE MEDAL LABELS, WITH
FICTITIOUS ADDRESSES.



ROYAL "TABULA RASA,"

THE "PERFECT" CONSOLIDATED DENTIFRICE.

NOTICE.—This highly-commended Preparation may now be had from the Wholesale Houses,
or direct from the Manufactory—

166 BISHOPSGATE STREET WITHOUT, LONDON, E.C.

SAMPLE ORDERS SOLICITED. SHOWCARDS, HANDBILLS, &c., SUPPLIED.

Agents and Travellers wanted where not represented.

THE UNIVERSAL TOOTHACHE SYRINGE

Retail,
6d. each.



Wholesale,
4s. per dozen.

Is great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a glass bulb, which enables its contents to be seen, also prevents the
liability to evaporation through long keeping or exposure.

THE UNIVERSAL CORN AND WART PENCIL.

1 oz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted
for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled
Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British
Pharmacopœia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their use a
fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the
proportion of one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopœia.



Per lb.	Per lb.	Per lb.	Per lb.
Aqua Anethi, Concent. 4/0	Aqua Cinnam. Ver. Concent. 6/0	Aqua Fœniculi, Concent. 4/0	Aqua Pimentæ, Concent. 4/0
" Anisi, 4/0	" Cassiæ, 4/0	" Menth Pip. " 4/0	" Rosæ " 8/6
" Camphoræ " 4/0	" Flor. Aurant. " 8/6	" Ang. Con. 6/0	" Rosæ Virgin " 10/6
" Carui " 4/0	" Flor. Sambuci, " 8/6	" Virid. " 4/0	

The above are put up in Bottles of ½lb. or 1lb. and upwards, each of which has the Inventor's Protection Label over cork.

Wholesale Agents—Hearon & Co., Maw, Son, & Thompson, Lynch & Co., London; Evans, Sons & Co., Raimes
Liverpool; Woolley, Manchester; Bewley & Draper, Hunt & Co., Dublin; Glasgow Apothecaries' Co., Hatrick & Co.,
Liverpool; Floerhart & Co., Edinburgh; Foggitt, Thirsk; Goodall & Co., Leeds; Slinger & Son, York; McKesson & Robbins, New

Glasgow; Raimes & Co., Duncan Floerhart & Co., Edinburgh; Foggitt, Thirsk; Goodall & Co., Leeds; Slinger & Son, York; McKesson & Robbins, New
York. Special terms for large quantities may be had from

B. ROBINSON, Operative Chemist, Distiller and Brewer of British Wines, Manchester.

INDEX TO ADVERTISEMENTS,

See pages 37, 38.



HIGHEST AWARD.



SYDNEY, 1879.

BEST,
5/6,SECONDS,
3/6
per doz.

REDUCTION IN PRICE

OF THE CELEBRATED
BEST FALCON TOOTH BRUSHES.

The most perfect Brush in the market. The knots are secured by wire, as well as cemented. No loose hairs; no hairs breaking off; made with unbleached bristle, which wears longer and gives more satisfaction than the bleached. Chemists can defy Co-operation. In every variety of pattern. Name stamped if one gross is ordered.

SPECIAL CASH TERMS TO CHEMISTS, &c.

10 per cent. on receipt of Invoice; 5 per cent. in a Month; or Net on journey.

CROWDEN & GARROD, Wholesale Brush Manufacturers & Merchants, **FALCON SQ., LONDON, E.C.**
IMPORTERS OF SPONGE, ETC. ILLUSTRATED CATALOGUES ON APPLICATION.

BURROUGH'S

SPIRITUS RECTIFICATUS, P.B.

CHEMICALLY PURE SPIRITS OF WINE

The Best English Grain Spirit, Free from Fusel Oil.

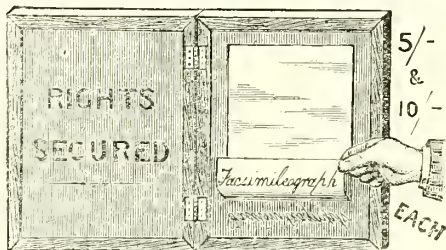
56 over proof, 20s. per gallon; 60 over proof, 20s. 6d. per gallon; less 6d. per gallon for five gallons. Lower quotations for quantities. Cash on delivery or with order. Country Orders must contain remittance or reference to London House.

CALE STREET DISTILLERY, LONDON, S.W.
Also Duty Free for Exportation.

THE CONDY'S FLUID CO., 7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR
FIRM AND GENUINE PRIZE MEDAL LABELS, WITH
FICTITIOUS ADDRESSES.

THE "FACSIMILEOGRAPH" } OR LETTER MULTIPLIER. Saves Time, Money, and Brains. Adopted by Her Majesty's and other Governments.



This ingenious apparatus enables any person to take 100 Copies of a Letter, Circular, Music, Mechanical Drawing, Design, or Sketch, in ten minutes. No press, rollers, damping, or special paper. SIMPLICITY, DISPATCH, PERFECTION. Its utility is evident, for a boy can pull off 500 THOUSAND CIRCULARS, &c., in two hours, at a cost of from 1s. for paper. The slab merely requires washing after using to be again ready for use.

AS A PROOF OF SUCCESS, the most costly inventions of a similar character are now discarded in its favour. This is not only the best, but the cheapest "Graph" in the market. Unwarranted Testimonials and Press Notices proclaim the value of this Invention. MADE TO SUIT ALL CLIMATES.

TESTIMONIAL No. 1192.

From the "Graphic" Office, 180 Strand, London, October 13th, 1879.

"I have tried the 'Facsimileograph' and cannot say too much in its favour. It is certainly the most perfect of the kind I have yet met with, and fulfils all the advertisements say of it. Send us three more of them for gentlemen in the Office; will remit on receipt of invoice."

Yours, &c.,

"R. D. EDWARDS."

Prices complete, Note Size, 5s.; Letter do., 10s.; Foolscap, 16s.; Folio, 21s.

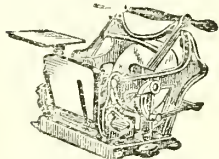
Samples supplied at a third off above Prices.

Intelligent Traders employing canvassers can clear from £100 per month, as all business men buy eagerly at sight. Portable for shipment, and packing free.

Booking free to any Address. Agents wanted—Liberal Terms. SPECIAL MAKE FOR INDIA AND THE COLONIES. NO EXTRA CHARGE.

Cheques and P.O.O.'s payable to R. F. HENEY. Address—47 PRESTON ST., BRIGHTON, ENGLAND.

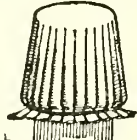
Sydney Exhibition.—PRIZE MEDAL Awarded to THE SIMPLISSIMUS SELF-INKING PRINTING PRESS. CHEAPEST, SIMPLEST, AND BEST.



CHEMISTS, PRINT YOUR OWN LABELS AND HANDBILLS. Send for our NEW ILLUSTRATED CATALOGUE, 108 Illustrations, of Presses, Paper Cutters, Type and material used by Printers, with a vast quantity of information never before published, post free. Eclectic Handbook of Printing, 1s. 1d. (Second Edition now in Press). Specimen Book of Type and Ornaments (100), 7d. PRESSES FROM £2.

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"Let those now Print who never did before, and those who always Printed Print the more."



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PAPER



BOTTLE
CAPS.

Are Reduced in Price to
1s. PER GROSS
The First Five Sizes.

Stamping Name and Address 6d. per GROSS extra, as usual.

OF ALL THE LEADING SUNDRY HOUSES OR—

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LONDON, W.
MANUFACTORY—MARSEILLES.

TRADE MARK.



G. F. SNOOK & SON,

TRADE MARK.



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THE GENUINE BROWN ARNICATED

AND

WHITE SPREAD FELT CORN AND BUNION PLAISTERS.

AGENTS FOR

Grave's Corn & Wart Pencils, Spongio & Impermeable Piline.

Samples and Price List on receipt of Business Card.

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GOLDEN HAIR.

OBARE'S AUREOLINE

Produces, by two or three applications, the beautiful golden colour so much admired.

WARRANTED PERFECTLY HARMLESS.

5s. 6d. and 10s. 6d., of all Perfumers and Chemists.

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For Home, Foreign, and Colonial Markets.
Wholesale only.

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CHEMICALLY PURE GLYCERINES
AND
TOILET GLYCERINE ARTICLES.

Transparent Glycerine Soap,

Registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine.

Liquid Glycerine Soap,

Preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and white.
See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Sarg's Double Distilled Glycerine, Chemically Pure,

and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandruff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

GLYCERINE, CHEMICALLY PURE.

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cases of Four 56-lb. Tins each.

SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each; twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 ½-lb. Bottles, with Registered Label.

OLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS.

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Castle Street, Falcon Square, LONDON, E.C.; 14 Market Buildings, Flinders Lane, MELBOURNE;
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ESTABLISHED 1843.

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 WHOLESALE & EXPORT
HOMŒOPATHIC CHEMISTS,
55 Bold Street, Liverpool,
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NEW ILLUSTRATED PRICE LIST
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THOMPSON & CAPPER have recently purchased the long-established business of **HENRY TURNER & CO.,** Manchester, which they now carry on under their own name.

THOMPSON & CAPPER'S
DENTIFRICE WATER

Is kept by T. & C.'s Agents throughout the world.

PRICE CARD ON APPLICATION.

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Chemists by Appointment to the London
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HOMŒOPATHIC CHEMISTS,
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CHEMISTS' COUNTER SHOW-CASES.

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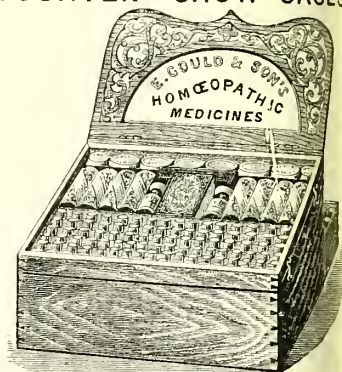
DIMENSIONS—

Length, 16½ in.;

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Height, back (with-
 out flap), 9 in.; ditto

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Case No. 1.—Price £5 5s.

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„ No. 4. „ 20 0s.

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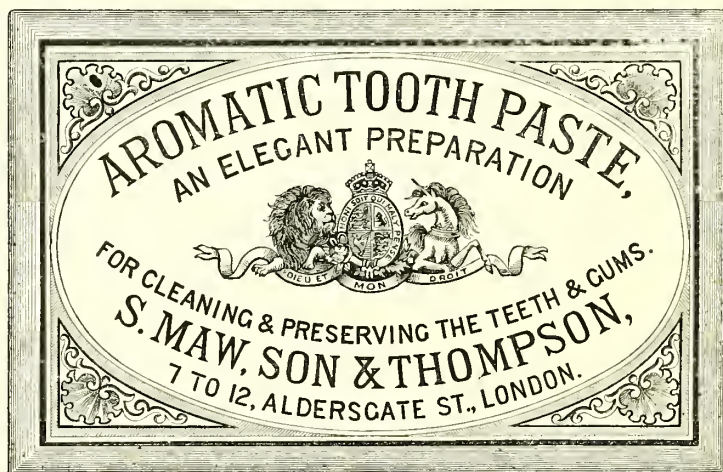
Post free to any

part of the World.

Domestic Medicine Chests suitable for all Climates.

FAC-SIMILE OF LABEL.

IN COVERED JARS.



BURNT-IN LABELS.

Price to the Trade, 12s. per dozen. Usual Discount.

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THE

GOLD MEDAL,



PARIS, 1878.

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MANUFACTURERS OF THE NEW

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FOR TOILET AND OTHER PURPOSES.



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SEAMLESS DECORATED TIN BOXES,

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

DECORATED TIN CANISTERS,

For Disinfectant Powder, Baking Powder, &c., &c., &c.

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INFANT'S FOOD WARMER.

FOOD KEPT WARM 12 HOURS WITHOUT ATTENTION

In the Bottles ready for use.

Particulars and Testimonials on application to the Inventor and Manufacturer,

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Bright Tin do. 16/6

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12/- extra.

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COFFEE AND MILK.

A New Preparation which, in itself, contains every essential for producing a cup of delicious, invigorating, and fine-flavoured Coffee.

The experience gained by T. S. in the manufacture of his now well-known Essences of Coffee has enabled him so to preserve the properties of the Coffee that, though combined with Condensed Milk, it still retains the full strength and aroma of freshly-roasted Coffee—a result hitherto unattained.

THOS. SYMINGTON & CO., Chemists,
BEAVERBANK WORKS, EDINBURGH.

HEWITT'S PUNJAB RED PEPPER,

supercedes all other Preparations of Cayenne.
PURE, WHOLESOME,
PIQUANT.IMPORTED direct from the
Punjab, via Suez Canal. Pre-
pared by

J. H. HEWITT, Chemist,

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From the receipt of a Field Officer
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£75 CHEMIST'S SHOP

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If for Export, suitable for any climate, including
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14 feet long by 12 feet wide.WHOLESALE AND RETAIL DRUGGIST'S, SURGEON'S,
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ALL KINDS OF FIXTURES BOUGHT OR TAKEN IN EXCHANGE.

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full postal instructions.

BRYANT & MAY'S 6*d.* and 1*s.* Wax Vestas in
Ornamental Flat Metal Boxes.

MANUFACTURERS OF ALL KINDS OF MATCHES, VESTAS,
AND CIGAR LIGHTS.

CRAWSHAW'S PERFECT BLACK DYE,

Will Dye a beautiful and Fast Black at one operation.

SOLD IN PACKETS AT 3d. and 6d. Each.

Each size is packed in Wood Boxes containing 3 doz. Price 21/- and 48/- per gross.

We have the greatest pleasure in introducing to the trade our new Perfect Black Dye, which we venture to think will supply a long-felt want. Hitherto it has been found impossible to produce a good Black Dye, which could be easily used for domestic purposes, and at the same time give good results. The complicated process of Mordanting and Dyeing, and Dyeing and Mordanting—although not difficult to the professional dyer—could not possibly be carried out in the ordinary dwelling-house.

Our attention has therefore been closely devoted to this subject for some time, with the result that we are now able to Manufacture a Perfect Black Dye, which gives a beautiful and fast Black at one operation, in one bath, and without any mordanting whatever.

MAY BE HAD FROM ALL THE WHOLESALE HOUSES.

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PAINLESS CORN AND WART PAINT, contains no Arsenic or any Injurious Ingredient. This preparation has the advantage over similar preparations in being quite Painless. It is an entirely new mixture, and though only discovered quite recently, it already commands a large sale, and is rapidly superseding all similar preparations. Testimonials received from most respectable firms.

DIRECTIONS FOR USE.—Apply a thick coating of the Paint, and allow it to remain for 6 or 7 days; then detach the destroyed Corn (or Wart) with the nail, or a dull knife. In Bottles, with Camel's Hair Pencil, 6d. each, sample, by post, 6d.

PURE SPIRITS OF WINE

FOR

TINCTURES, ESSENCES, PERFUMES, &c.,
OXFORD ROAD DISTILLERY, MANCHESTER.

MESSRS. SMITH & GIBB

Beg to call the attention of CHEMISTS and DRUGGISTS to the under-mentioned Prices of Pure Spirits of Wine:—

Strength per cent.	Specific Gravity.	Price per gallon.
63 over proof ..	0.8238	20/6
60 " " ..	0.8298	20/0
55 " " ..	0.8366	19/6
50 " " ..	0.8482	19/0

Terms—Cash on Delivery. Jars to be returned or paid for.

For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 galls. 3/-; 3 galls. 3/6; 4 galls. 4/-; 5 galls. 5/6; 6 galls. 6/-. When the empties are returned the money will be repaid.

WHITE AND SOUND TEETH.

JEWSBURY AND BROWN'S ORIENTAL TOOTH PASTE.

This old-established and increasingly favourite Dentifrice has been Forty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

WOODS' ARECA NUT TOOTH PASTE.

For Removing Tartar and Whiteness the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

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QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM

(WITH GREASE), Restores the Hair if weak or falling off.

Price 9d., 1s. 6d. and 3s. 6d. per bottle.

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Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle.

WOODS' DANDRUFF POMADE.

Never falls. 1s. per pot.

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EWENS' CLARIFIED LARD, MARROW, SUETS, AND OILS.

JAMES EWEN & SONS are induced to give further publicity to these articles, the continued demand by all who have used them being satisfactory proof "that where purity of basis" in ointments, &c., is required, they are most desirable.

By their method of purifying, the fats are not chemically altered, but simply divested of all particles tending to decomposition, they are consequently available for the most delicate preparations.

Adeps. Benz. B. P. and Pharm. Lard (*vide* P. J. Vol. I., No. 8). Direct, "for Cash only," from

JAMES EWEN & SONS' CLARIFIED FAT WORKS,
5 HATFIELD STREET, STAMFORD STREET, S.E.;

Or through any of the Wholesale Houses, with their usual credit, at a small advance.

CAUTION.—See that each package bears their label with name and weight.

TRADE PRICE

WEBSTER'S
MANILLA
CABINET PAPER.

The true specific for Piles.

Trade



Mark.

This paper is manufactured from Manilla grass and is impregnated with the following medicaments, viz.:—Carbolic Acid, Wormwood, and Bromo-Chloralum, in such proportions as to render its use at once healing and preventive.

The formula is the property of the eminent Dr. Webster, who testifies that "during a lengthened experience" he has "never known it to prove inoperative."

SOLD IN CARTONS, CONTAINING 600 SHEETS, AT

2/- each.

SOLE PROPRIETORS AND MANUFACTURERS—

LYNCH & CO.,

171a & 171b, ALDERSGATE STREET,
LONDON, E.C.

TO BE HAD OF ALL RESPECTABLE CHEMISTS.

11s. 6d. per doz., less usual Discount.

SPECIAL PRICES

FOR QUANTITIES.

FOSSILINE

MARK.

land, odourless, perfectly pure Hydrocarbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

FOSSILINE is *not* a distillate of Petroleum or a compound of Paraffin, Wax, and Oil. It does not crystallise, but is a homogeneous Jelly. Chemists find FOSSILINE an invaluable basis for Ointments, Pomades, &c. It does not rancify, and is not surpassed by any known substance as a Dressing for Wounds, Cuts, Bruises, Hemorrhoids, Skin Diseases, &c.

PRICES—In 7-lb., 14-lb., and 28-lb. Tins, 10d. per lb.; 56-lb. and 112-lb. Drums, 9d. per lb. Tins and Drums Free.

Also now make a **VETERINARY FOSSILINE**, which, at the low price we offer it, can be used for Smearing purposes; also for Veterinary Ointments, &c.

PRICES—In 7-lb., 14-lb., and 28-lb. Tins, 8d. per lb.; in 1-cwt. Casks, 56s. per cwt. Tins and Casks free.

SUBJECT TO USUAL DISCOUNT.

SAVAR'S FOSSILINE PLASTER,

Invaluable for use in Hospitals, and generally as a substitute for other Plasters, for the following reasons:—

1st. It is more pliable, it will adhere more readily *without the application of heat*, and will remain on the required spot. It can easily be removed for inspection of wounds, or redressing; and, unlike ordinary plaster, does not soil the hands or the part to which it is applied.

2nd. It is cooling and healing to wounds, it stimulates the granulation to a healthy action, and is of great service as an application to *bad sores*.

PRICES—9s. per dozen Yards on Soft Calico; 12s. per dozen Yards on Brown Holland. Subject to usual discount.

PATENT FOSSILINE PLASTERS

read on Leatherine, specially manufactured, and with new and improved machinery.

Plasters spread on this material (combined with Fossiline) are superior to Moleskin, or even skins of leather, being pliable, stout, strong, durable, and cheaper.

Emp.	Adhesiv.	Opt. c.	Fossiline, on Leatherine (17 inches wide)	...	...	17s. per dozen yards.
"	Ammon. c.	Hydrarg. c.	Fossiline do.	do.	...	19s. " "
"	Belladonnæ c.	Fossiline	do.	do.	...	29s. " "
"	Calefaciens c.	Fossiline	do.	do.	...	21s. " "
"	Capsici c.	Fossiline	do.	do.	...	29s. " "
"	Ceratum Saponis c.	Fossiline	do.	do.	...	21s. " "
"	Opii c.	Fossiline	do.	do.	...	29s. " "
"	Roborans c.	Fossiline	do.	do.	...	21s. " "
"	Saponis Alb. c.	Fossiline	do.	do.	...	21s. " "

POROUS PLASTERS.

Emp. Belladonnæ c. Fossiline, on Leatherine (7½ inches wide)	...	...	15s. per dozen yards.
„ Capsici c. Fossiline	do.	do.	15s. „ „
„ Roborans c. Fossiline	do.	do.	15s. „ „

SAVAR'S "GOOD SAMARITAN" PATENT POROUS PLASTERS

Are spread on Leatherine.

Capsicum,	Size, 7½ by 5 inches	...	...	2s. 4d. per dozen	27s. per gross.
Belladonna,	ditto	...	...	2s. 4d. "	27s. "
Strengthening,	ditto	...	...	2s. 1d. "	24s. "

Put up in Boxes of 12 and 36 Plasters.

Samples of any of the above may be had on application. Subject to usual discount.

SOLE MANUFACTURERS:

VANS, SONS & CO.,
LIVERPOOL.



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MATHER'S


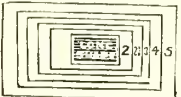
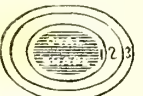
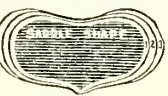


ROYAL BALSAMIC


PLAISTERS,

ON WHITE LEATHER ONLY,

AS SUPPLIED TO THE

ARMY AND NAVY AT SCUTARI HOSPITAL.

LEATHER PLAISTERS.		No.	Full Size of Leathers.	Retail Prices.	Per doz.	Mather's Royal Balsamic Plaster.	Tomlinson's Cod Liver Oil.	Plain Plaster.	Emp. Roborans or Calefaciens.	Emp. Belladonna, No. 1.	Emp. Belladonna, No. 2.
			Inches.	d.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Heart Shape	.....	1	3 x 4½	1 size.	..	0 8	0 8	0 8	0 8	1 4	1 0
	.....	2	4¼ x 6	1½ "	..	1 0	1 0	1 0	1 0	2 0	1 6
	.....	3	4½ x 7½	2 "	..	1 6	1 6	1 4	1 4	2 8	2 0
	.....	3½	5½ x 7¾	3 "	..	2 3	2 3	2 0	2 0	4 0	3 0
	.....	4	6½ x 8½	4 "	..	3 0	3 0	2 8	2 8	5 4	4 0
Long Shape	.....	5	8 x 9¾	6 "	..	4 6	4 6	4 0	4 0	8 0	6 0
	.....	1	2¾ x 4	1 "	..	0 8	0 8	0 8	0 8	1 4	1 0
	.....	2	4¼ x 6¾	2 "	..	1 6	1 6	1 4	1 4	2 8	2 0
	.....	2½	4¼ x 8½	3 "	..	2 3	2 3	2 0	2 0	4 0	3 0
	.....	3	5¼ x 9¼	4 "	..	3 0	3 0	2 8	2 8	5 4	4 0
Oval Shape	.....	4	6½ x 11	6 "	..	4 6	4 6	4 0	4 0	8 0	6 0
	.....	5	7½ x 14½	8 "	..	6 8	6 8	6 0	6 0	12 0	8 0
	.....	1	4¼ x 6½	2 "	..	1 6	1 6	1 4	1 4	2 8	2 0
Saddle Shape	.....	2	6½ x 8½	4 "	..	3 0	3 0	2 8	2 8	5 4	4 0
	.....	3	7¾ x 9¾	6 "	..	4 6	4 6	4 0	4 0	8 0	6 0
	.....	1	6¼ x 12¼	6 "	..	4 6	4 6	4 0	4 0	8 0	6 0
Wrist	.....	2	7 x 15	8 "	..	6 8	6 8	6 0	6 0	12 0	8 0
	.....	3	8 x 16	1/ "	..	8 8	8 8	8 0	8 0	15 6	12 0
	.....	1	3 x 10¼	3 "	..	2 3	2 3	2 0	2 0	...	...
Knee	.....	2	4¼ x 15	6 "	..	4 6	4 6	4 0	4 0	...	...

BREAST PLAISTERS.					No.	Size of Leather.	Retail Prices.	Per Doz.
	Emp. Plumbi, for Ladies' Breasts				1	Diam. 6 $\frac{3}{4}$ in.	d. 4 size	s. d. 2 8
	" " " " " "				2	" 7 $\frac{1}{2}$ "	6 "	4 0
	" " Spread on Chamois				1	" 6 $\frac{3}{4}$ "	... ..	4 0
	" " " " " "				2	" 7 $\frac{1}{2}$ "	... ..	6 0
					No.		No. 1 Quality. per doz.	No. 2 Quality. per doz.
Emp. Belladonna, for Ladies' Breasts					1	Diam. 6 $\frac{3}{4}$ in.	s. d. 5 4	s. d. 4 0
" " " " " "					2	" 7 $\frac{1}{2}$ "	8 0	6 0
" " Spread on Chamois.....					1	" 6 $\frac{3}{4}$ "	8 0	6 0
" " " " " "					2	" 7 $\frac{1}{2}$ "	12 0	9 0

Less 10 per cent. Discount, 3 Months' Current Account. Special Quotations to Wholesale Buyers.

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DYER ST. HULME, MANCHESTER.

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Index to Advertisements.

February 15, 1881.

SCALE OF CHARGES FOR ADVERTISEMENTS.

Whole Page, £5. Half Page, £2 15s. Third Page, £2. Quarter Page, £1 12s. Sixth Page, £1 5s. Eighth Page, 18s.

Special Rates for Wrapper and pages preceding and following Literary matter, also pages facing inside of Wrapper. The above Scale of Charges will be subject to a discount of 10 per cent. upon 7 and 20 per cent. upon 13 insertions, prompt quarterly payments.

N.B.—An order for 13 insertions means 12 in the CHEMIST AND DRUGGIST and 1 in the CHEMISTS' AND DRUGGISTS' DIARY. The same rule also applies to an order for 7 insertions, or to an order for insertion until countermanded, if such order is in force in October of any year.

All advertisements intended for insertion in the current Month must be sent to the PUBLISHER OF THE CHEMIST AND DRUGGIST on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 A.M. on the morning previous to publication.

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BALIERE, TINDALL & COX	Important New Works
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BARNETT & FOSTER	Soda Water Machinery, &c.
BARNETT & ELLERS	Patent Stopper Aerated Water Bottles, &c.
BARON, SQUIRE & CO.	Wholesale and Export Druggists
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BIDLEY & BOURDAS	Plate Powder
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TURKEY ... „	3/8	4/-	8/-	12/-	16/-	20/-	28/-	40/-	doz.			
	4d.	6d.	1/-	1/6	2/-	2/6	3/6	5/-	each.			

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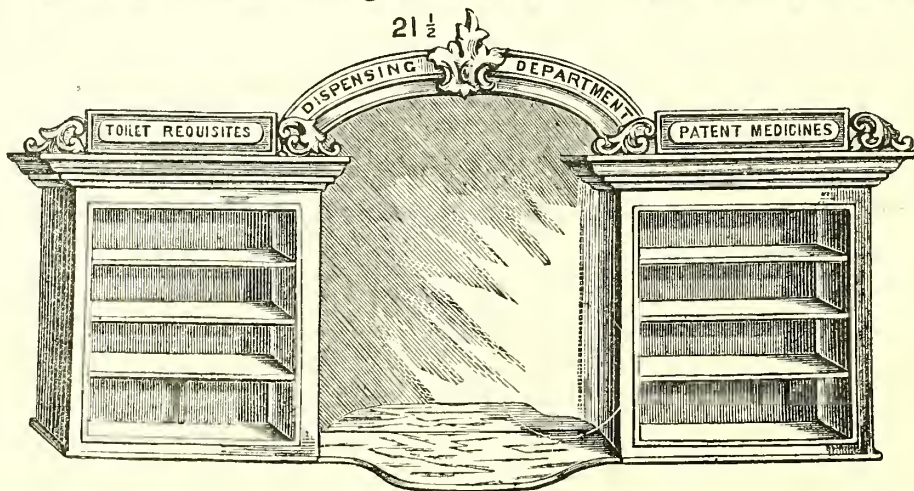
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AND MANUFACTURER OF DRUGGISTS' SUNDRIES,
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This Case is made of choice Mahogany, with Mirror in centre, and is lined at back with Black Enamelled Leather Cloth; it has Plate-Glass Shelves, Glass Knobs on the Doors, a Marble Slab in the Centre, and is fitted with Three Shelves at back. The Case is 6 feet long, 29 inches to cornice, 33 inches to top of tablets, and 36 inches to top of centre mirror.



For Export or easy transit it is admirably adapted, as it takes to pieces, and can be fixed again in an hour. Packs into a Case 34 by 36, at a cost of 10s. 3s. of which is allowed if the empty is kept, and the full value allowed if returned carriage paid.

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Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c.

SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged.

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MARK.

A bland, odourless, perfectly pure Hydro-Carbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

As a **REMEDIAL AGENT** the properties of **FOSSILINE** are not to be excelled. Physicians have found it invaluable as a basis for Ointments, &c., and as a vehicle for employing the most prized and potent medicines. It is now used in the leading Hospitals in Europe and Canada. It **CANNOT GO RANCID**, and as an **MOLLIENT** it is undoubtedly the best yet discovered, being far superior to Glycerine, Cold Cream, or Camphor Balls in softening and healing properties. As a **HOUSEHOLD REMEDY** it is recommended as an application to Burns, Cuts, Bruises, and Sprains, Sunburns, Chilblains, and all other Skin Diseases, and the Bites of Poisonous Insects.

FOSSILINE (SIMPLE)

Sold in Bottles, One Shilling each; 8/ per dozen.

The following preparations may also be obtained:—

SAVAR'S FOSSILINE POMADE

Prevents the hair from falling off, and as a smaller quantity is sufficient for use, it is the most economical Hair Dressing known.

Sold in Three-Ounce Stoppered Bottles, One Shilling each; 8/ per dozen.

Also in Sixpenny Bottles; 4/ per dozen.

SAVAR'S FOSSILINE TOILET SOAP

Highly emollient and economical, the most agreeable Soap.

In Tablets, 6d. each; or in 1/6 and 5/ Boxes; 4/, 13/, and 48/ per dozen.

These Toilet Requisites are exquisitely perfumed with the delicate odours of the

MONTSERRAT LIME TREE BLOSSOMS.

SAVAR'S FOSSILINE PLASTER, PATENT,

Generally used in the leading Hospitals as a substitute for other Plasters, it adheres readily without warming, and is easily removed for inspection of wounds or re-dressing, and of great service (spread on Holland or Leatherine) as an application to bed sores.

Sold in Boxes, Ninepence each, or in bulk if required; 6/ per dozen.

SAVAR'S FOSSILINE CORN PLASTERS, PATENT,

Are emollient and cooling, and as they do not require wetting or warming, are easily applied.

In Boxes One Shilling each; 8/ per dozen.

SUBJECT TO THE USUAL DISCOUNT.

Be sure to ask for **FOSSILINE** and Savar's preparations of it, and see that you get them, and not any others SAID TO BE of a similar nature. See that the Trade Mark is on the label.



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SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.



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ESTABLISHED A.D. 1833.



FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE
WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY 1879.

FIG. 1.

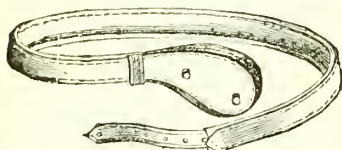


FIG. 4.

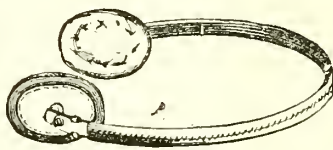
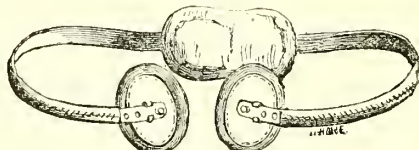


FIG. 5.



TRUSSES.

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin	per doz.	£1 1 0
Circular Trusses, double, basil and chamois or basil and moleskin	per doz.	1 14 0
" " " with extending backs	"	2 14 0
Salmon & Ody's Expired Patent, single, Fig. 4	"	1 10 0
" " " double, Fig. 6	"	3 0 0
Moc-Main Lever, single	each	0 8 0
" " double	"	0 13 6
Coles's Expired Patent, single	"	0 5 6
" " double	"	0 10 6
Scrotal Trusses, basil and chamois or moleskin, single	"	0 4 0
" " " double	"	0 7 0

SUSPENSORY BANDAGES.

No.		
1. Cotton Bags and tape under-straps	per doz.	0 8 0
2. Cotton Oxonian, with drawing-strings	"	0 10 0
3. Silk Bags and tape under-straps	"	1 1 0
4. Silk Oxonian, with drawing-strings	"	0 18 0
5. " " Bags bound with elastic	"	1 4 0

SUSPENSORY BANDAGES—continued.

No.		
6. Silk Oxonian, superior quality, bands of buff jean, with drawing-strings	per doz.	£1 4 0
7. Silk Bags, to button on, with tape under-straps	"	1 1 0
8. " " " under-straps to button	"	1 4 0

ELASTIC STOCKINGS, KNEE-CAPS, ETC.

Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market							
	Silk.	Super. Silk.	Cotton.	Super. Cotton.			
Stockings	£ s. d.	£ s. d.	£ s. d.	£ s. d.			
0 9 0	0 13 6	0 5 3	0 6 6				
Knee-caps	0 6 0	0 9 6	0 3 6	0 5 0			
Calf-pieces	0 6 8	0 9 0	0 4 0	0 5 6			
Socks	0 5 0	0 7 6	0 3 3	0 4 6			
Wristbands	0 2 0	—	0 1 6	0 2 0			
Knee Stockings	0 15 0	1 3 0	0 8 9	0 11 6			
Belts, to draw on	0 15 0	1 1 0	—	0 9 0			

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents
Messrs. Barclay & Sons, 95 Farringdon Street.

ESTABLISHED 1843.

M. A. CRAVEN,

Wholesale & Export Confectioner,

AND MANUFACTURER OF

MEDICATED LOZENGES, REFINED LIQUORICE, JUJUBES, &c.

PAVEMENT, CONEY ST., & COPPERGATE, YORK.

Lozenges of all descriptions made from Customers' private formulæ (or ingredients) and stamped with name if required.

PRICE LIST ON APPLICATION.

RED AND WHITE ROSES

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Red and White Roses are exquisitely-made Lozenges, which impart a delicious perfume to the breath.

FOR FLAVOUR AND FRAGRANCE THEY ARE UNEQUALLED.

Price 2s. 6d. per lb., 5 per cent. Discount. Samples on Application.

Parcels of 14 lbs. forwarded carriage paid, with a handsome Glass Show Jar gratis (fig. A, No. 5, Maw's List), on receipt of P.O.O. for 33s.

Sole Proprietors, **RAIMES & CO., Wholesale Druggists, YORK;**
And supplied also by **RAIMES, BLANSHARDS & CO., Edinburgh,** and **RAIMES & CO., Liverpool.**
London Wholesale Agents, **TIDMAN & SON, 21 Wilson St., Finsbury.**

KEPLER MALT EXTRACT.

An Agreeable Substitute for Cod-Liver Oil.

A CONCENTRATED NUTRITIOUS DIGESTIVE FOOD.

Very desirable as a restorative when the system has become reduced by Wasting Diseases.

KEPLER MALT is free from Alcohol, and one tablespoonful contains more nutritive and digestive value than a pint of the strongest Beer, Ale, Porter, or any alcoholic or fermented Extract of Malt.

ZIEMSSSEN'S CYCLOPÆDIA OF MEDICINE says:—"Malt Extract is preferable to Cod-Liver Oil, being more palatable and more easily digested."

The LANCET says:—"Kepler Malt Extract is very good, and may be used with confidence."

"The Kepler Malt Extract is reliable, and is manufactured in such a careful manner as to ensure the preservation of its valuable constituents."

The MEDICAL TIMES AND GAZETTE says:—"The Kepler Malt Extract is deserving special commendation. Dr. W. Roberts, of Manchester, places it first on the list of Malt Extracts he had found reliable, and containing a proper amount of Diastase, and possessing the property of digesting starchy foods."

THE KEPLER COD-LIVER OIL WITH MALT EXTRACT.

The LANCET says:—"The Kepler Cod-Liver Oil with Malt Extract has hardly any of the taste of the Oil. Many could take it easily who cannot take the Oil."

The BRITISH MEDICAL JOURNAL says:—"Combined with Cod-Liver Oil, Malt Extract seems to increase the nutritive powers of the Oil, and to render it more easily digestible."

SUPPLIED BY ALL RESPECTABLE CHEMISTS.

BURROUGHS, WELLCOME & CO.,
 MANUFACTURING CHEMISTS,
 SOLE DEPÔT—SNOW HILL, LONDON.

"YOUR A 1 OIL HAS STOOD THE WEATHER ADMIRABLY."

The above voluntary communication has just been received by us from a Chemist in the North of England: it shows how the Oil is appreciated.

The price of the A 1 Cod-Liver Oil is 9/- per gallon in Winchester quarts.

FREE FROM INDIGESTIBLE FATTY ACIDS.

OUR OWN MANUFACTURE. GUARANTEED PURE.
DOES NOT CHILL IN COLD WEATHER.

We invite Orders for Sample Winchester's of the "A 1" Oil.

The New Label ("En Norsk Fisker"), in Colours, is now used for Winchester quarts. We also supply the "En Norsk Fisker" Show Card.

SOUTHALL BROS. & BARCLAY, BIRMINGHAM.

DRAPER'S INK (DICHROIC)

THE NEW BLACK INK, different from anything else ever produced.

Writing becomes a pleasure when this Ink is used. It has been adopted by the principal Banks, Public Offices, and Railway Companies throughout Ireland.

It writes almost instantly full black.

Does not corrode Steel Pens.

Dries rapidly on the Paper.

Is cleanly to use, and not liable to blot.

Flows easily from the Pen.

Blotting-paper may be applied at the moment of writing.

In Jars, 6d., 1s., and 2s. each.

Can be obtained, in London, through Messrs. BARCLAY and Sons, Farringdon Street; W. EDWARDS & Son, 157 Queen Victoria Street, London, E.C.; F. NEWBURY and Son, Newgate Street; S. MAW, Son, and THOMPSON, Aldersgate Street; JONES and Co., 98 Southwark Street; HARVEY, SHEPHERD & Co., Charterhouse Square, London; WM. MATHER, Manchester; AYRTON and SAUNDERS, Duke Street, Liverpool; and GOODALL, BACKHOUSE & Co., Leeds.

BEWLEY & DRAPER, Limited, DUBLIN.

See "CHEMIST AND DRUGGIST," December 15th, 1874.

SAVORY & MOORE'S SPECIALITIES.

PHOSPHORISED COD-LIVER OIL.

Was introduced to the Profession by
Messrs. SAVORY & MOORE.

The advantage of this (the ORIGINAL) preparation over the imitations of it consists in the ability to administer a SUFFICIENT dose of Phosphorus without the admixture of a LARGE quantity of Cod-liver Oil.

Dose, 1 to 2 drachms. Supplies in bulk or small bottles.

THE FINEST COD-LIVER OIL.

Is not only the palest in colour, but it is the purest and the most palatable kind in use.

In Half-pint, Pint, and Quart Bottles.

PANCREATIZED (DIGESTIVE) COD-LIVER OIL.

By combining the Pancreatic Juice with the Oil, the digestion of the latter is easily and rapidly effected, nausea is prevented, and the beneficial properties of the Oil are increased.

Dose, 1 to 4 drachms.

COD-LIVER OIL.

Combined with Alkaloids, Medicinal Salts, and other important substances, capable of solution in Cod-liver Oil.

PANCREATINE (In Powder or Granules),

Represents the active principle of the Pancreatic Juice, by which Fat and Oils are digested and assimilated.

Dose, 3 to 5 grains.

PANCREATINE WINE.

An excellent vehicle for taking Cod-liver Oil, and promoting the digestion of it.

Dose, 1 drachm.

PEPSINE PORCI AND PEPSINE WINE.

Supplied in Bulk or Small Bottles. "The Pepsine prepared by your process is possessed of considerably more digestive power than that of any other description of Pepsine."

DR. LETHBRIDGE.

PEPTODYN.

A combination of the whole of the Digestive Secretions—Pepsine, Pancreatine, Diastase, or Ptyalin, &c., forming a valuable remedy in all forms of Dyspepsia, and diseases arising from imperfect nutrition.

Dose, 3 to 5 grains.
Bottles, 2/9, 4/6, and 11/.

SAVORY & MOORE, 143 NEW BOND STREET, LONDON, W.

AND ALL CHEMISTS THROUGHOUT THE WORLD.

[2.]



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General Post Office.

An index to the advertisements, and the terms for insertion, will be found
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The Pharmacy Law Amendment Bill has at last been re-
turned by the Pharmaceutical Council to the committee,
with instructions to try to interest the Lord President of
the Privy Council in its provisions. Since then the Home
Secretary has stated in Parliament, in reply to a question
from Mr. Chaplin about the sale of arsenic in Lincolnshire,
that he would be happy to help him to amend the law in
regard to the sale of poisons. A good opportunity, there-
fore, seems to present itself to consult with influential
members on both sides of the House.

In consequence of Scotch opposition, clause 1 of the draft
Pharmacy Bill, as published by us last month, has been
omitted. The simple object of it was to empower the
Council to appoint on the Scotch Board examiners not
resident in Scotland.

A few words have been added to clause 2, the object being
to empower the Council to require of candidates certificates
of having passed a curriculum of study, should the Council
at any time desire to enforce this.

A warm discussion occurred in the Council on the reten-
tion of clause 5, and much opposition against this clause
has arisen in the country. By 11 votes to 8 the Council have
decided to retain it. They have insisted on the clause out

of regard for consistency in the principle of the Bill, which,
they say, is qualified proprietorship; but compromises have
been made in Acts of Parliament before this, and it seems
tolerably clear that, unless the Council even yet reconsider
their decision, they will have enough inside opposition to
preclude all hopes of getting their Bill passed.

The difficulty which the Middlesex magistrates made
about Mr. Whittle's minim measures came before Assistant-
Judge Edlin last month, on appeal made on behalf of the
Chemists' Trade Association, and that learned Judge chose
rather to cut the knot than to untie it. He refused to hear
evidence as to the accuracy of the measures or as to the
possibility of attaining absolute accuracy, but he decided
that, according to the Act, the measures were legal until
they were found false, and that, as it was clear that Mr.
Whittle had not used them for trade after they had been
alleged to be false, he had not, therefore, transgressed the
law. The conviction was, consequently, quashed.

We understand that the Standards Department of the
Board of Trade have communicated with many of the chief
inspectors of weights and measures throughout the country,
asking them to furnish the Department with information
respecting the proportion of error allowed or considered
reasonable in their several districts in apothecaries' glass
measures; and that this inquiry is being made in view of
the contemplated issue of a circular on the subject.

The General Medical Council have held a session expressly
to settle the difficulties which have arisen as to the inter-
pretation of the Dentists' Act. It had been alleged that
certain chemists' assistants, who had registered as having
bonâ fide practised dentistry in conjunction with pharmacy,
were not entitled to registration, inasmuch as their names
did not appear in the Chemists and Druggists' Register. The
British Dental Association got a counsel's opinion to the
effect, and by means of threatening letters induced many to
resign their registration. The Medical Council, acting on
high legal advice, have resolved that they cannot order the
erasure of the names for the reason stated by the Dental
Association, and they have further resolved that those who
abandoned their claims in consequence of the threatening
letters may, if they choose, re-register without fee.

The Executive Committee of the British Pharmaceutical
Conference have elected Mr. Philip Princep secretary to the
Conference for the current year.

Our obituary includes the name of a chemist at Warring-
ton, said to have reached the age of 108 years. We have
not been able to verify this statement.

The Pharmaceutical Society of Ireland offer prizes (given
by Mr. H. N. Draper and Professor Titchborne) for a method of
determining the purity of lithium carbonate, and for im-
proved formulæ for certain syrups. The competition is
limited to persons connected with that Society.

At Cambridge two chemists and the wife of one of them
have been sentenced to five years' penal servitude in an
abortion case. At Glasgow a grocer has been fined 3*l.*, under
the Sale of Food and Drugs Act, for selling chemical food
deficient in iron and phosphate of lime. At Liverpool a
chemist has been fined for selling a patent medicine un-
stamped, and a person trading as a chemist has been fined
for an infringement of the Pharmacy Act.

Notwithstanding the desperate condition of the trade, of
which we hear a great deal, we have to report several
successful dinners and a couple of balls in connection with
the trade. The Chemists' Ball occurred on the night follow-
ing the extraordinary snow storm, but it was attended by
297 visitors, a remarkable tribute to its perennial popularity

Pharmacalia.

A CHEMICAL DUEL.

ONE summer afternoon an elderly French gentleman came into our pharmacy. He had talked some time about Paris life, and then, without any introduction, he told the following story. "I suppose," he said, "that you know the true particulars about the death of a celebrated chemist?" The name of the individual concerned may be suppressed; the circumstances of the case will suggest the person to many readers. "He was," continued the stranger, "I need hardly say, remarkable for his skill in toxicology, while his social talents and his handsome physique made him distinguished in private circles. Once he was engaged in connection with a charge of criminal poisoning, was dispatched into the provinces to give evidence, and to conduct medico-legal experiments. While away from home a letter reached him, which contained the information that his domestic peace had been invaded, and that proceedings of a gravely suspicious character had arisen. He came back in due time, and treated the rumour with contempt. On a second occasion he was again summoned as a scientific expert, and had once more to be absent. An anonymous letter of a similarly distressing import reached him, with the further statement that if he hurried back he might prove with his own eyes the truth of the allegation.

"Unwillingly the chemist did so, for it would have been culpable to neglect the warning. His worst suspicions were confirmed, and he determined upon a strange and fatal mode of satisfaction. Having prepared two colourless solutions, he confronted the author of his dishonour, and, advancing to him, said, 'Here are two poisonous compounds, so made that they cannot be distinguished by the sight. One contains a poison from which by treatment you can recover; the other is fatal, and its effect instantaneous.' Filling two glasses he took one in his own hand, and gave the other to his betrayer. 'Now, let us drink together, and at the same moment.' They did so, and the great chemist fell down dead."

How far this narrative may be true or false, or to what extent imaginary, must be left an open question. Though we made diligent search to find out and have another interview with the narrator, we never met him again, and were unable to gain additional information. The only published account we could find in the Paris journals described the deceased savant as "mort subitement d'une apoplexie foudroyante;" but the story is here given exactly as it was related at the time.

THE SOCIETY OF PUBLIC ANALYSTS.

The annual meeting of the Society of Public Analysts was held at Burlington House, on Wednesday, January 19, Dr. Muter, the retiring President, in the chair. He congratulated the members on the satisfactory condition of their affairs, and on an advance in numbers of nearly 10 per cent. Though from its constitution the Society must of necessity be always limited, still they stood a compact body of 100 men, besides Associates, not one of them being amateurs, but practical workers in a special domain of chemistry. With regard to the work done in furtherance of the great object of the Association, namely to increase the knowledge of proper processes for the analysis of food and drugs, 44 original communications had been produced. Worthy of mention were both the digest of the working of the Sale of Food and Drugs Act, by Mr. Wigner, and the complete Alcohol Tables of Mr. Hehner, without which no

laboratory could be said to be fully furnished. The Doctor concluded his remarks by awarding emphatic praise to the chemists at Somerset House. He bore personal testimony to the immense pains and care exercised by Mr. Bell and his colleagues on the samples submitted to their examination. He urged them to prosecute researches at every spare moment, for chemistry was essentially a science built up by the collection of small facts, and no observation carefully made, however apparently simple, was to be disregarded. If the members were not weary in well doing, Great Britain might continue to be, what undoubtedly she was at present, the nursery of the science of food analysis.

MICROSCOPY.

Science, though in itself one, presents so many special branches of research that it becomes matter of necessity and convenience to divide it into distinct lines of study. Neither human intelligence, still less time available for the pursuit of abstract knowledge renders it possible for any one man to grasp the details of universal science. No one department has of late been cultivated with more assiduity and success than that of microscopy. The journal which chronicles its progress, is, as we have often before stated, beyond praise for the manner in which it is conducted. The current number of that periodical will win the admiration of the reader.

As some members of the Pharmaceutical Society are also ardent microscopists, our President being amongst the number, no apology will be needed for once more alluding to the subject.

At the last meeting at King's College, the chairman announced that a Fellow had offered a fund to be applied for a gold medal to be bestowed under certain conditions, upon any person of any nationality who shall have originated any important improvement in the construction of the microscope, or any of its accessory apparatus, or have in other ways eminently contributed to the advancement of the microscope as an instrument of research. This offer seems to come within the legitimate scope of a practical pharmacist, and there is hardly any one whose daily duties would lead him into a more sensible handling of the matter.

Encouragement in the direction of microscopy has not been limited to mechanical contrivances, for another Fellow has also offered a similar fund for a medal to be given in respect of researches in any subject of natural science, carried out wholly or in great part by means of the microscope, or of the recipient having in other ways eminently contributed to the advancement of research in natural science in connection with the microscope. These two medals are to be known respectively as the Microscopical and Research Medals of the Society. Under such circumstances one would regret more than ever the removal of Mr. Stoddart, did we not know that he has left behind him many excellent workers in the world of pharmacy.

A beautiful object was displayed at the last *soirée*, and it was much admired—the Glass-Crystal, shewn in a large number of forms. Several of the shapes it assumed were most graceful; that of ordinary window-glass was made by cooling down large masses of fluid glass for several days to a temperature slightly higher than its point of viscosity. These crystals were discovered about ten years ago; and at intervals, up to the present day, Mr. W. D. Herman and Mr. G. E. Davis have given to them great attention, and photographed several specimens. They bear a close relationship to rock-structures.

AN OLD LADY who has several unmarried daughters feeds them on fish diet, because it is rich in phosphorus, and phosphorus is the essential thing in making matches.

The Pharmaceutical Council.

FEBRUARY 2.

THE Council meeting on February 2 was perfect in at least the one sense of all the 21 members being present.

CENSURING A JOURNAL.

The minutes having been read,

Mr. SAVAGE rather angrily expressed his disapproval of a paragraph in the last number of *THE CHEMIST AND DRUGGIST*. As he had been the mover of the resolution to supply certain publications to Mason's College, Birmingham, he was exceedingly surprised and annoyed to find the following paragraph in *THE CHEMIST AND DRUGGIST*. [Mr. Savage then read the fifth paragraph on page 21 of last issue.] The writer of that note must, he thought, have required a blue pill and black draught. He was very sorry to see the privileges accorded by the Council so abused. He thought it was extremely bad taste.

The PRESIDENT said his attention had been drawn to the paragraph in question, and he also thought it was in bad taste. He was glad Mr. Savage had called attention to it, and he hoped such paragraphs should not be repeated.

THE WEIGHTS AND MEASURES TRIAL.

The President and Mr. Robbins gave some details of the appeal trial at Westminster in the case of Mr. Whittle.

THE RETIRING COUNCILLORS.

It was announced that the following members of the Council would retire by rotation in May next:—Messrs. Bottle, Richardson, Butt (in place of Shaw), Churchill, Robbins, Williams, Woolley.

Of the remaining 14 the ballot fell on the following seven to retire:—Messrs. Gostling, Hampson, Radley, Greenish, Hills, Sandford, Symes.

The following seven remain on the Council for another year:—Messrs. Andrews, Frazer, Savage, Atkins, Mackay, Schacht, Squire.

After the election of members, &c., the

NUMERICAL STATEMENTS

Were submitted. These showed a decrease of 4 life members of the Society since last year, of 13 subscribing pharmaceutical chemist members, and of 9 chemist and druggist members; an increase of 60 associates in business, of 13 associates not in business, and of 3 registered apprentices. The subscribing members of the Society are now 1,729 pharmaceutical chemists and 803 chemists and druggists; there are 1,025 associates in business, and 840 associates not in business, 1,074 apprentices, and 239 life members.

The examiners' reports showed that 1,227 candidates for the Preliminary examination had been examined during 1880, of whom 638 passed and 589 failed. For the Major examination there had been 9 candidates, 5 passed and 4 failed; for the Minor 102 candidates, 61 passed and 41 failed; for the Modified 3 candidates, 1 passed and 2 failed.

The register contained, on December 31, 1880, the names of 2,308 pharmaceutical chemists and 11,154 chemists and druggists; total, 13,462; being 89 less than the previous year.

Mr. BOTTLE remarked on these statements that, though the Society was gaining ground numerically, it was losing somewhat in membership. There were every year fewer men qualifying themselves to take seats round the Council table by passing the Major examination, and he hoped young men, before engaging in the rough contest of the world, would take a little more time so as to fit themselves for the higher positions of pharmacy.

Mr. ATKINS supported these remarks, but added that nothing would be so likely to induce young men to do this as to try to clear the atmosphere of pharmacy.

FINANCE.

The Finance Committee's report was read and passed without comment.

THE MEMORIAL TABLET.

A passage occurred in the report of this Committee recommending the Council to reconsider and rescind its resolution of last month to place on the proposed memorial tablet the names of persons giving 20 guineas emulatively, or of firms giving 10 guineas to the Benevolent Fund. The Committee considered that the sum should be given in one or at most in two donations, and they also urged that the names of firms ought not to be inscribed on the tablet.

Mr. SAVAGE did not see any objection to the name of a firm appearing on the tablet.

Mr. SYMES characterised the action of the Committee as "unfortunate" in returning to the Council a decision on which the Council had been fairly unanimous. He reminded the Council of the remarks of Mr. Atkins last month, that firms would often give donations as a part of their business expenses which they would not give as individuals.

Mr. HAMPSON did not think it was a matter to deplore that the Committee should have offered a suggestion to the Council, which was all they had done. Benevolence, he considered, was an individual act, and he did not look upon the contribution of five or six persons in a firm as he did on the gift of an individual.

Mr. ROBBINS said the other part of the resolution, which allowed cumulative donations, was perhaps the more important of the two. People now giving annual subscriptions of a guinea would then, perhaps, give the same as donations. He thought there ought to be some limit to the number of amounts into which a donation might be divided.

Mr. BOTTLE, though a member of the House Committee, thought that they had gone beyond their power in reversing a decision of the Council.

Mr. HAMPSON pointed out that they had not reversed the decision, but had only recommended its reversion.

Mr. WILLIAMS having explained that donations must necessarily go to the fund, while subscriptions went to current expenses, Mr. GOSTLING followed on Mr. Hampson's lines, and Mr. RICHARDSON expressed his astonishment at the recommendation of the Committee. He hoped the Council would re-affirm its former decision.

Mr. SANDFORD thought they had got into a somewhat unfortunate muddle in this matter. The question surely ought to have been considered by the Benevolent Fund Committee rather than by the House Committee, and he suggested that it should now be referred to the former.

That suggestion, said Mr. SCHACHT, would have been a good one if the discussion were taken *de novo*, but he had heard nothing to justify the Council in reversing its decision.

After a little further discussion the Council, with 4 votes in favour of the Committee's recommendation, re-affirmed its previous resolution, which, at the request of Mr. Churchill, was read by the Secretary. It affirmed that donations of 20 guineas in cumulative sums should entitle the donors to have their names inscribed on the board. Mr. SYMES said that the resolution should state "single or cumulative sums," but the motion of last month was produced, and proved to be as quoted, in Mr. Symes's handwriting. This upset matters again, and a new discussion was started, Mr. Sandford again urging reference of the matter to the Benevolent Fund Committee. Mr. MACKAY supporting this suggestion, remarked that the proposed board was a curious and rather a weak thing in any case. He hoped the inscription of names would not be made retrospective. Mr. Sandford's proposal was at last carried almost unanimously.

The Benevolent Fund Committee's report was read, but excited no comment.

The grant of two sums of 15*l.* and four of 10*l.* each was recommended.

LACK OF INTEREST IN THE LIBRARY.

The report of the Library, Museum, and Laboratory Committee showed a singular falling-off during 1880 in the attendance at the library. In 1879 there had been 5,201 day attendances, and 2,164 evening attendances. In 1880 the numbers were respectively 3,037 and 1,564.

Mr. WILLIAMS commented on this fact.

Mr. HAMPSON said the Committee saw no way of accounting for it, except to a small extent by the fact that more books were now sent out than before. But that would only very slightly affect the attendance at the library, as most of the books lent went to the country. It was deplorable that perhaps the finest pharmaceutical library in the world should not be more used.

The PRESIDENT hoped the falling-off would prove to be only temporary.

The General Purposes Committee's report was taken, as usual, in committee.

THE BOARDS OF EXAMINERS.

The next business was set down on the agenda paper as follows:—

"Report of the Board of Examiners on the Preliminary Examination."

"To consider the following resolution of the Board of Examiners:—

"That in the opinion of this Board power should be taken in the new Act to discontinue the holding of the Preliminary examination by this Society through the medium of the College of Preceptors, and in all cases to accept in lieu thereof the certificates of having passed the examinations of [other Examining and Educational Bodies, previously approved by the Board and Council."

Mr. MACKAY asked why did this appear as the "Board" and not the "Boards" of Examiners?

The PRESIDENT said that the Preliminary examination did not come before the Scotch Board.

Mr. MACKAY asked was he to understand that the London Board could do whatever they liked in regard to the Preliminary examination? If so it was news to him. The Scotch Board had desired to work in harmony with the London Board, but he thought a resolution formed by the latter should, as matter of courtesy, be submitted to the Scotch Board before it was brought before the Council. If it was the fact that the Scotch Board had no control over the Preliminary examination, it would be best to know it.

Mr. SYMES asked if this report was of a special meeting of the examiners, or was it a regular annual report.

Mr. WILLIAMS said the Board of Examiners met four times a year to receive a report from the College of Preceptors in reference to the Preliminary examination. Their proceedings were little more than formal.

Mr. MACKAY said this did not touch the question.

Mr. SYMES pressed for an answer to his question.

The SECRETARY thereupon read the report of the meeting of examiners on January 19. They had received a report from the College of Preceptors, stating that 275 candidates had offered themselves, of whom 129 passed and 146 failed. They had received and adopted that report. They had then considered the question of the Preliminary examination, and had passed the resolution above quoted.

Mr. MACKAY: Then, Mr. President, I think I am quite right in asking this Council to suspend the consideration of this subject until such time as the Board of Examiners in Scotland have had an opportunity of discussing it. Having moved a formal resolution to this effect,

Mr. SYMES seconded it.

Mr. SCHACHT thought the demand of Mr. Mackay a very reasonable one. But he wished to remark that the meeting of the Board was not a regular one for examination, and therefore neither the President nor the Vice-President was present.

Mr. Bottle, Mr. Williams, and Mr. Atkins continued the discussion.

Mr. SANDFORD said that while he always desired to show every respect to the Board of Examiners, he thought it was quite clear this resolution had been hastily drawn. The Board of Examiners seemed to take a wrong view of the certificates which went before them by authority of the Council. As an indication of the haste with which this resolution had been drawn he remarked that the Board had put themselves before the Council.

Mr. FRAZER concurred in these remarks. He had several times himself remarked that the examiners received regulations from the Council, and that it was not for them to alter

them. He did not see how there could be time to discuss the Board's proposal for a new clause in the Bill, as two months ago it had been ruled that there was not time to discuss a suggestion of his respecting territorial representation.

Mr. Mackay's motion was then carried unanimously.

The ASSISTANT-SECRETARY explained on behalf of the Board of Examiners, that they had asked him when the Scotch Board would meet again, and he had told them not till February. They believed that there would be no time for their suggestion to be considered by the Council unless it were put before this meeting.

Mr. MACKAY said the Scotch Board had never shown any indisposition to hold a special meeting when there was business to come before them.

Mr. WILLIAMS asked if their resolution just passed would preclude attention being given to the suggested alteration.

Mr. GOSTLING said he had voted for Mr. Mackay's proposal in the hope that it would do so.

EXHIBITION OF APPARATUS.

Mr. SYMES moved, in accordance with notice:—

That an exhibition of chemical and pharmaceutical apparatus and other objects of special interest to pharmacists be held in the Society's rooms at the period of the annual meeting in 1881, or at the meeting of the International Pharmaceutical Conference or Congress in August; and that the Library and Museum Committee be requested to report on the best means of carrying out the same.

Mr. RICHARDSON seconded the motion.

Mr. WILLIAMS suggested that the clause referring to the International Congress should be withdrawn, as nothing affecting that Congress had been organised by them.

Mr. HAMPSON and the PRESIDENT, however, urged that this was a point which might be left to the Committee.

The proposal was carried.

THE PHARMACY LAW AMENDMENT BILL.

The Solicitor attended at 2 P.M. to consult with the Council on the draft Bill.

The PRESIDENT said that certain memorials had been received, and he suggested that these should be read in open council and considered in committee.

The ASSISTANT-SECRETARY then read the following:—

An extract from the minutes of a meeting of the Council of the North British Branch on January 18. That Council opposed clause 1, which would have enabled the Council to appoint persons other than those residing in Scotland to the Scotch Board of Examiners. They regarded the present arrangement as the result of an understanding arrived at in 1852, and they thought it had worked well hitherto, and that its alteration now would appear to imply a want of confidence in the Scottish Board.

In clause 2 they recommended the insertion of the words "with the consent of the Privy Council" after "Great Britain," as a check on hasty legislation.

They opposed clause 5.

This communication was signed by John Mackay, Honorary Secretary.

A memorial from a meeting of 50 or 60 chemists at Edinburgh, signed by Wm. Gilmour, as chairman, opposing clauses 1 and 5.

A memorial from the Glasgow Chemists and Druggists' Association to the same effect as the preceding, with the addition of advocating the prosecution of offenders against the Pharmacy Act in Scotland by the Public Prosecutor; and that the name of the active poison as well as the word "poison" in any patent medicine be required to be stated on the label. This was signed by Robert McAdam, President, and John C. Hunter, Secretary.

A memorial from the Sheffield Pharmaceutical and Chemical Association, cordially approving of the proposed Bill and undertaking to actively support it. Signed by G. T. Wilkinson Newsholme, Hon. Sec.

A memorial from the Registered Chemists' Trade Association of Liverpool, approving the proposed amendments and

...ing to render any aid in their power. Signed by J. L. Ecken, Hon. Sec.

A memorial from the Rochdale and District Chemists' Association generally approving the proposed Bill, but respectfully suggesting that, in case the Legislature should reject the clause prohibiting co-operative stores to dispense, clause 5 be also withdrawn; and also drawing attention to the fact that, at present, branch shops may be conducted without qualified assistants. Signed by J. W. Bamford.

A letter from Mr. Sutton, of Norwich, asking if they could do anything there to assist in passing the Bill.

A memorial signed by Robert Owen Fitch and John Polphus Clark, members of the Society, residing in Hackney, advocating several alterations in the Bill, the most important being to add the words "domestic receipts of drugs or chemicals" to the words "medical prescriptions" in clause 7 and elsewhere in this Bill.

During the reading of this memorial Mr. WOOLLEY asked if the time of the Council was to be occupied with a number of letters. The ASSISTANT-SECRETARY said this was a memorial to the Council, duly signed by two members.

Mr. Sandford then presented a memorial signed by 12 chemists in Brighton and Hove expressing decided approval of clause 5.

Mr. Sandford also produced letters from Mr. Keen, of Finchurch Street, expressing objection to clauses 1 and 5, and desiring a provision to be made for branch shops; and from Mr. Balkwill, Plymouth, opposing clause 5.

A memorial was then proposed to be read from the Irish Pharmaceutical Society, but some question as to its bearing on the present Bill was raised by Messrs. Symes and Luckay. The Vice-President thought it had no bearing on the Bill, but the President ruled otherwise, and it was read. The letter stated that a committee of the Irish Council had been formed some two years ago to consider certain difficulties in the working of their Act. Certain vested rights had been reserved in their Act to individuals, and they now wished that all should be required to come in and register. They further desired that the word "person" should be held to mean any association of persons, whether a partnership or a company. They knew that no amendments purely in the direction of trade protection would be accepted by the Legislature, but they believed that an interchange of views between the two Councils might lead to amendments which would tend to add to the safety and convenience of the public, and the advancement of pharmacy in both parts of the United Kingdom.

Mr. FRAZER asked if the document recommending certain alterations suggested by the Trade Association was to be read. He believed it came before a previous meeting of the Council, but was not read.

There seemed to be an opinion that it had been read. Before going into committee Mr. SYMES asked why this course was to be pursued. Mr. WILLIAMS also thought that now that the draft Bill had been published there could be no further reason for going into committee. Mr. SCHACHT said the President had announced the course to be taken on these amendments, and he objected to any question as to his being raised now. Mr. HAMPSON and Mr. RICHARDSON also considered that it would be better to discuss the memorials in committee.

Nearly two hours were occupied in committee. On resuming, Mr. FRAZER rose to move an amendment in accordance with notice given. This gentleman had put down a long series of amendments, but most of them depended on the first, which was "to omit the words 'and medical prescriptions' from the preamble, or if retained to insert after them, in each case, the words 'containing scheduled poisons.'" Mr. FRAZER wished to read his remarks to save the time of the Council. This was agreed to. He said he acknowledged that his amendment aimed at the overthrow of one of the great principles of the Bill, viz., the extension to non-

poisonous drugs, when in the form of prescription, of the restrictive principle that had hitherto applied to only a limited number of poisonous agents. Though this newly-proposed restriction did exist in the Irish Pharmacy Act, it had not hitherto had a place in any of the numerous Acts applying to this country. To the innovation he ventured to offer his strongest protest in open council, as he had done in committee. His first speech was made and his first vote given in the Council nearly ten years ago against imposing by legislative enactment additional restrictions to those contained in the Act of 1868. He declined now, as he declined then, to forge additional chains for already sufficiently burdened limbs. He would draw the line at "scheduled poisons." He would demur to the "safety of the public" calling for the additional legislation sought for by this Bill, even at the call of some of those friends with whose action ten years ago he so heartily agreed. It might be replied to this, that the chains were not intended to encumber our limbs, but those of others outside the Society, whether these be "persons," such as the family grocer; or "corporate bodies," such as the Civil Service or other stores. But chains they are notwithstanding, and we cannot get them imposed on others and leave ourselves free. He did not believe Parliament would agree to this legislation, nor did he think Parliament would sanction the restrictions sought to be imposed not only upon the makers, but upon the retailers also of patent medicines containing "scheduled poisons." Nor, he thought, when they came to understand it, would the trade itself consent to be entangled in the conduct of its business by such restrictions, which, if obtained, would greatly hamper the sale of proprietary articles—the said trade being itself at once their makers and retailers. He believed that should this Bill be carried into law, its operations would be felt to be so oppressive by ourselves, and so antagonistic to the interests of the public, that the next great movement in this Council would be to seek its removal from the statute book of the country.

Mr. BUTT seconded the motion in order to give the Council an opportunity of discussing it.

Mr. BOTTLE said perhaps the seconder would tell them what it meant. Was it intended to get rid of the Bill altogether?

Mr. FRAZER said he had only advocated the omission of the reference to medical prescriptions in the preamble.

On a division, Mr. FRAZER alone voted for his motion.

Mr. FRAZER then moved the omission of clause 1.

The Council had already discussed this in committee, a division was therefore taken on the question at once, and the motion was carried by 11 votes to 6.

Mr. FRAZER then moved to add after "Britain," in clause 2, the words "with consent of the Privy Council." The Solicitor having explained that all alterations of bye-laws must be submitted to the Privy Council, this was withdrawn.

Mr. SCHACHT moved certain additions to clause 2. The additions are indicated by italics in the following copy of the first six lines of the clause:—

It shall be lawful for the Pharmaceutical Society of Great Britain from time to time, by any bye-law, to alter or amend the regulations respecting examinations by dividing and subdividing the same, and requiring and regulating intervals of time between examinations or any divisions of the same, and by requiring or authorising *a course of study to be gone through and other evidence or tests of knowledge and of practical experience for the efficient carrying on of their business* on the part of the candidates. . . .

The object of the motion, which had been discussed at length in committee, was to give power to enforce, but not to render obligatory, a curriculum on pharmaceutical candidates.

Mr. WILLIAMS objected to the clause as a dangerous one.

Mr. SYMES said it had been argued already.

Mr. WILLIAMS said it had been argued in committee, but he had the right to re-discuss it in open council.

Several suggestions were then made to make it clear that the clause was permissive, and it was almost settled that the first line should read, "It shall be lawful for, but not obligatory upon," but Mr. SANDFORD said such words could not go into an Act of Parliament.

On division, the clause altered as shown above was agreed to by 12 votes to 2.

Mr. FRAZER then moved the omission of clause 5.

Mr. SANDFORD seconded this. They knew that he had several times expressed his opinion of the cruelty of this clause, and he trusted that at this last stage they would consent to erase it, and not send it to the House of Commons. They had been told to look upon the question in a catholic spirit, but he asked them to look at it in a charitable and Christian spirit. This had been called the widows' clause, but it was not correct to call it so. It would prevent executors from carrying on businesses for widows as they could now. Mr. Balkwill had written to him telling him how, on the death of his father, his business would, under such a clause, have been necessarily sold. The Brighton chemists, he believed, with two exceptions, had petitioned against the clause. In Edinburgh and Glasgow, as they saw, the feeling was very strong against the clause. He quoted further evidence of the unpopularity of the clause. Dr. Symes had stated in a letter published in the Journal that he (Mr. Sandford) had not fairly stated the case, but he maintained he had. His opponents had urged that if they allowed a widow's business to be carried on by a qualified assistant, they could not, in fairness, object to stores doing the same. He was very sorry such an argument had been published, and he did not think it would help them.

Mr. MACKAY spoke of the strong feeling in Edinburgh against this clause, and said he could see no reason for substituting this for the 16th clause of the old Act, which fulfilled all that was desired. He considered that the widow of a chemist and druggist was in a very different position from that of a corporation which entered on the business with a view of making money by it.

Mr. SAVAGE also expressed similar views.

Mr. WOOLLEY said they had several times been subject to Mr. Sandford's hard knocks, and had been accused of want of humanity and so on, and now he objected to them for giving their reasons for inserting the clause. He could see no harm in stating that they considered public safety was endangered by allowing widows to carry on businesses with qualified assistants. Mr. Sandford had quoted Edinburgh, but against that might be placed the opinion of Liverpool, Sheffield, Rochdale, and Birmingham, all of which places saw that the Bill must be utterly lost, and that they had not the slightest chance of carrying it, if they omitted the clause. Hard cases might be made out, no doubt, but they might provide a widows' fund; and besides, they ought to remember the hard cases of 13,000 members of the trade already suffering from the present state of the law. The present state of the law caused the number of indigent widows to be constantly increased. Mr. Mackay and Mr. Savage had said that the case of widows was different from that of others. He could not see why, if widows might carry on the business with a qualified assistant, greengrocers and anybody else might not do the same. If they omitted the clause their chance of carrying the Bill was utterly and irretrievably gone.

Mr. HAMPSON said Mr. Sandford had claimed Christianity in support of his views, and he supposed his opponents were to be regarded as heathen. For his part, however, he preferred to consider this matter as one of justice and principle, and out of regard to public safety, as well as from a selfish point of view. He believed a business was likely to be better conducted when the principal was qualified than if only the assistant were so qualified. The latter might be here to-day and gone to-morrow. Why did not Mr. Sandford include widowers also, for there were now several lady pharmacists? He seemed to be bewitched by widows. When he had brought forward a motion for admitting ladies to the Society, Mr. Sandford said he would have nothing to do with them; but he clung to the widows. The legislation on behalf of widows was merely a favour to rich widows; for poor ones it was a mere trap. To the latter it was almost always the best thing she could do to dispose of her business as soon as she could.

Mr. SQUIRE said he should vote against the clause, because he could not see that if it was a bad thing to allow a widow or trustee to carry on a business at all, he or she should be allowed to do a bad thing for three years. If they allowed a bad thing to be done for six months, why not for 60 months, or 60 years?

Mr. WILLIAMS pointed out, in reply to this, that by expunging the clause the 16th clause of the former Act

would remain in force, and he rather questioned whether it would not be better to leave things as they were than disturb them.

Mr. ROBBINS said the old clause had worked very well for a number of years, and, though he had approved of the new clause, he thought there was no chance of carrying it without unanimity. They saw that Edinburgh and Glasgow were opposed to it; that meant nearly all Scotland. Brighton and other places were equally opposed to it; and, in face of this, he saw no chance of carrying the clause. He should, therefore, vote against.

Mr. SYMES claimed that no charge of want of sympathy for widows or orphans could be brought against the supporters of this clause. As Mr. Hampson had said, legislation for them was in favour of rich widows only. A rich widow with a large business could, perhaps, afford to pay a handsome salary to a qualified manager, a salary equal to what he might get if he went into business for himself; but a widow with a business bringing in 200*l.* or 300*l.* a year could not gain out of that subsistence for herself and family and also pay a capable manager. To argue this question as one of sentiment was quite outside of logic. Mr. Symes then entered into a discussion with Mr. Sandford as to the accuracy of certain figures which had been quoted in their published letters, but Mr. Sandford suggested that this might be settled privately. Mr. Symes concluded by saying that, after all, he mainly supported the clause on the principle of personal qualification, which was the principle of the Bill. They had been told that they were aiming at protection, and that in that they would not succeed. He maintained that there was more protection now than there ever had been, but their aim was chiefly to protect the public, and it was an incident that they protected a class also. To throw out the clause, he believed, would be fatal to the Bill.

Mr. RICHARDSON said he should vote for the clause, and, in support of what had been stated, he gave an instance of a business the proprietor of which died some five years ago. He was consulted, and strongly advised the widow to sell the business, which was a good one then, and would have brought her a good sum. She did not take his advice, and, though she was a clever woman, after five years that business had dwindled down so that it could not now be disposed of, and she, he believed, was living on charity.

Mr. ATKINS had previously voted against this clause, but now felt bound to abandon sentiment and vote for its retention. He did not dispute that the 5th clause was a hard clause, and no doubt cases of hardship would arise under it. But for what were they going to Parliament if it were not to establish the principle of personal qualification? They were told to revert to the 16th clause of the Act of 1868; but that Act does not give us what we require, or we should not need to go to Parliament at all. He was convinced that, if power were given to widows to carry on their businesses with a qualified manager, it could not be refused to other firms, and therefore with reluctance, and a full appreciation of the responsibility, he felt bound to record his vote in favour of the clause.

Mr. ANDREWS said no doubt appeals to charity on behalf of widows and orphans must be received with respect and sympathy. He had often, in season and out of season, advanced arguments similar to those of Mr. Sandford; but, when he had been appointed to the Committee on this Bill, his conclusions had been entirely altered by more information. Hard cases would happen, no doubt, but the Council must look to the large mass, and not to individual instances. Besides, they proposed to retain power to make exceptions in special cases. The Council would be astonished if they knew the vast number of businesses carried on without an assistant. Such must be sold on the death of the proprietor, for they would not pay for a qualified assistant. He agreed with Mr. Hampson that wealthy widows alone would benefit by the proposal to omit this clause. But these arguments were insignificant in comparison with the contention that personal qualification was the fundamental doctrine of the Bill, and that an unqualified person should not be permitted to shield his incapacity behind a qualified assistant. The injury to widows of chemists, such as it was, would only be felt in conjunction with the injury suffered by widows of clergymen, medical men, and other professional men.

Mr. SCHACHT wished to refer to the argument of Mr.

Squire that if it was a wrong thing for executors to carry on a business it was wrong to allow it at all. There was a certain amount of logic in that. He might be excused if he said openly that he was the author of this clause, and that his desire was to have limited the time allowed to executors to one year instead of three years. The only justification there could be for allowing any time at all was that a chemist's was partly a professional occupation and partly a trade. He had to exercise his brains on a certain amount of material of pecuniary value, and a margin of time must therefore be given to allow of the disposal of this material. He had preferred one year, and he believed the reason why three years was fixed was because the Council had been asked to consider periods from 22 years downwards.

Mr. GOSTLING, amid general cries of "Vote," said the question was an important one, and not one to give a silent vote upon. He should vote for the clause on the ground of personal qualification of the proprietor being the principle of the Bill. But he also thought that he was justified in so voting as it would be a greater act of kindness to a widow to compel her to sell the business. When he had thought that he might die before his late wife he had often urged her in that case to sell the business without delay.

Mr. BOTTLE said there was such a thing as expediency, and if they were to go to Parliament with any prospect of success they must be unanimous. They had expunged clause 1 as a concession to Scottish feeling, and why not expunge this clause also? They would still have clause 16 of the old Act left, which had worked very well, though he admitted they could not have introduced it into such a Bill as this. How could the Council exercise the power reserved to them? How could they give permission to widow No. 1 and refuse it to widows No. 2 and 3 to carry on their businesses?

Mr. FRAZER, in reply, said that the rich could always take care of themselves; the poor could not. But if a widow was so poor that she could not afford to pay a manager, the question would be settled: she could not carry on the business. It was those who had introduced the clause who had re-opened the question.

On division the following voted:—

For omitting the clause:—Messrs. Bottle, Frazer, Mackay, Robbins, Sandford, Savage, Squire, and Williams.

For retaining the clause:—Messrs. Andrews, Atkins, Butt, Churchill, Gostling, Greenish, Hampson, Hills, Radley, Richardson, Schacht, Symes, and Woolley.

Mr. SCHACHT then endeavoured to reduce the three years in the clause to one year. Many of the Council had left, but the proposal was defeated by 9 votes to 4.

Mr. CHURCHILL moved to substitute two for three. Mr. SCHACHT seconded. This was lost by 6 votes to 3.

Little over a *quorum* remained, and Mr. WILLIAMS suggested that the rest of the Bill should be considered next month, but Mr. HAMPSON and Mr. SCHACHT urged that it should be finished then. There were no more amendments to consider except Mr. Frazer's series.

Mr. FRAZER said if the President would allow him to move his amendments, he should be glad. He believed no one would second them, and in that case, there would, of course, be no discussion. He therefore moved to omit from clause 7 the words, "*whether as Patent Medicines or otherwise, or Medical Prescriptions,*" and the words "*or Compounding Medical Prescriptions.*" From clause 8, "*or Compounding Medical Prescriptions, whether as Patent Medicines or otherwise.*" From clause 10, "*and the word Poison.*" The whole of clause 11. From clause 13 the words, "*whether as Patent Medicines or otherwise, or to Medical Prescriptions,*" and the whole of clause 14.

No one seconded these proposals.

Mr. WILLIAMS again remarked that, as so many alterations had been made, the Council ought to see the Bill again.

Mr. SCHACHT did not see the necessity, and on motion by Mr. Hampson, the Bill, as now amended, was accepted as the Pharmacy Law Amendment Bill.

Mr. SCHACHT then moved, and Mr. ANDREWS seconded:—

That the Pharmacy Act Amendment Committee be requested, after full consideration of the best method, to approach the Lord President of the Council, with the view of explaining the provisions of the Pharmacy Law Amendment Bill, as now agreed to, and of endeavouring to induce him to take charge of the Bill in Parliament.

Mr. WILLIAMS asked what was to be done in case the Lord President declined to take up the Bill.

Mr. SCHACHT said the Committee would then have to come back to the Council for further instructions.

Pharmaceutical Society of Ireland.

MEETING OF THE COUNCIL.

February 2, 1881.

PRESENT:—Professor Tichborne, President; Sir G. B. Owens, Messrs. Allen, Bennett, Brunker, Collins, Grindley, Hayes, Hodgson, and Oldham.

The minutes of the last meeting having been read and confirmed, the consideration of letters was proceeded with.

The first, from Mr. J. P. Harold, M.P.S.I., acknowledging the receipt of the Registrar's communication informing him of the resolution passed by the Council at last meeting, and saying that when he had necessity to again address the Council upon similar matters he would more specifically define the portions of the Act alleged to be infringed.

The second, from Mr. Joseph Holton, asking the Council not to require him to produce a certificate of having attended a course of Practical Chemistry as required by the regulations of the Society.

The Registrar was directed to inform him that the Council had no power to abrogate the bye-laws.

The third, from Mr. James Rooney, asking if it would be legal for two persons, one of whom was qualified and the other not, to open shop for the sale of drugs.

The Registrar was directed to inform him that such a course would not be legal.

Mr. Solomon Donovan, Downpatrick, having been duly proposed and seconded at last meeting, was elected a member of the Society.

Mr. GRINDLEY proposed, and Mr. BENNETT seconded—

That a Committee be appointed to make arrangements for the members' annual dinner of 1881.

Mr. GRINDLEY said that most present would recollect that about two years ago they had their first annual dinner, and that last year, from some cause which did not transpire, there was none. He thought that it should not be allowed to drop, and with that intention had brought the matter before the meeting, as it was a custom prevailing in most societies, and was conducive to good fellowship between members who would be otherwise unknown to one another.

The PRESIDENT said he did not think that the previous dinner had been a success, and suggested that a much better one should be provided in the event of their arranging for it.

A long discussion followed, in which Messrs. Hodgson, Brunker, Oldham, Hayes, and Sir G. Owens took part, and ultimately Mr. Grindley modified his motion to read as follows:—

That a Committee be appointed to report upon the advisability of holding an annual dinner in 1881,

Naming as a committee Messrs. Draper and Allen, with the proposer and seconder, and the amended motion was then passed.

Messrs. Ponsonby & Murphy's account for printing from October 17, 1878, to September 30, 1880, amounting to 51*l.* 15*s.*, was presented for payment.

Mr. HODGSON complained of the length of time the account had been running, and thought that they ought to get the printing of the Calendars done by tender.

The PRESIDENT agreed that such a course would be much better.

Mr. GRINDLEY mentioned that the average cost of their Calendars was 15*l.* per annum.

After some discussion Mr. HAYES proposed, and Mr. ALLEN seconded that the amount be paid, and the resolution was adopted.

The report of the examiners for the licence of the Society examination, held January 5, was laid upon the table.

Eight candidates entered their names, six presented themselves for examination, of whom the following five passed—

Bernard Joseph Costello, 87 Lower Gardiner Street.
Thomas Hamilton Edgar, 7 Digby Terrace.
Thomas Edmund Golden, Parsonstown.
William Mark Oldham, 6 Ulverton Terrace, Dalkey.
Edward Patrick Walsh, 19 North Earl Street.

The meeting then adjourned.

EVENING MEETING.

The second evening meeting of the present session was held in the King and Queen's College of Physicians, Kildare Street, Dublin, on Tuesday, February 1.

The chair was taken by R. Donovan, Esq., M.P.S.I.

Owing to the unavoidable absence of the honorary secretary, Dr. Tichborne, the minutes of the last meeting were read by Mr. W. N. Allen and confirmed.

Amongst the members present were:—Messrs. Grindley, Harold, Draper, Allen, Wells, Patterson, Evans, Conyngnam, &c.

A valuable and interesting paper of great pharmaceutical interest, "On the Nitro-prussides of the Alkaloids," was read by Dr. E. Davy, M.R.I.A., Examiner in Chemistry, Pharmaceutical Society of Ireland.

Dr. Davy exhibited samples of the nitro-prussides of quinine, strychnine, nicotine, and morphine, and explained the methods for their preparation.

Mr. DRAPER, F.C.S., said that the paper was an important one, specially interesting to pharmacists, and expressed a hope that the members of the Society would follow the example of Dr. Davy, and participate in the work of original research.

The other communication was by Mr. Draper, F.C.S., "Note on the Purification of Oleic Acid." Mr. Draper exhibited samples of purified oleic acid.

After a discussion relative to the employment of the purified acid in the preparation of some official preparations, the meeting adjourned.

PRIZE ESSAYS.

Two prizes, of the respective value of two and three guineas, are offered for the competition of candidates who are members of the Society, or have passed its Preliminary examination.

The essays must be sent, addressed "Secretary of Prize Essay Committee," not later than June 1 next, and are not to be signed by the author, but accompanied by a sealed envelope containing his name and address, and referring to an initial or *nom de plume* at foot of the essay.

I.—THREE GUINEAS.

(Offered by Mr. H. N. DRAPER.)

For an entirely trustworthy and yet easily practicable method of determining the purity of lithium carbonate.

II.—TWO GUINEAS.

(Offered by The PRESIDENT.)

For the best essay on improved formulæ for the syrups of the Pharmacopœia (particularly in reference to the syrups of hemidesmus, poppies, roses, scenna, and ginger).

The British Pharmaceutical Conference.

A MEETING of the Executive Committee was held at A 17 Bloomsbury Square, London, on Wednesday, February 2, 1881, Mr. G. F. Schacht, Vice-president of the Conference, in the chair.

Professor Attfield, F.R.S., Messrs. T. Greenish, S. Plowman, Charles Ekin, M. Carteighe, and Dr. Symes were also present.

Letters of apology for non-attendance were read from the President (Mr. R. Reynolds), Messrs. Grose, Hughes, Umney, and Bengel.

The minutes of the previous meeting were read and confirmed.

The Sub-committee appointed at the last meeting reported that they had received 25 applications for the post

of secretary, in response to advertisements inserted in the *Pharmaceutical Journal*, *The Chemist and Druggist*, *Nature*, and the *Chemical News*. Three of the applicants were recommended as being eligible for the appointment. A ballot having been taken, Mr. Philip Princep was elected secretary for the current year.

An honorarium of ten guineas was voted to Dr. Senier, in acknowledgment of his services to the Conference during the whole time he had been one of its officers, and especially during the last six months.

Pharmaceutical Festivities.

THE CHEMISTS' BALL.

If anything could have brought the Chemists' Ball to grief, the weather surrounding the 19th of last month would have had that effect. The ruin and desolation which the trade have suffered for some years past have seemed rather to benefit the ball than otherwise; men have been driven to dance, perhaps, in order to forget their other miseries. But when the journey to Willis's Rooms came to be little short of the difficulty and danger of an ascent of Cotopaxi, it was thought that something like a material obstacle had intervened. The crowd was a little thinned, certainly, but the room was quite full enough for comfortable enjoyment; and it rather took Mr. Willis and the stewards by surprise at supper-time when it was found that 297 ladies and gentlemen were desirous of being fed. The supper passed off with the usual gaiety and with the one toast of "The Ball," proposed by the chairman of the Committee, Mr. M. Carteighe. Afterwards dancing was resumed with great vigour, and kept up till about 4 A.M. The arrangements were well carried through this year by Mr. John F. Savory, the honorary secretary.

THE CHEMISTS' ASSISTANTS' ASSOCIATION.

THE annual dinner of the Chemists' Assistants' Association was held at the Holborn Restaurant, on January 26. The chair was occupied by Professor Bentley, who was supported on his right by Mr. Greenish (President of the Pharmaceutical Society), Mr. Robbins, Dr. Stocker, Dr. Muter, and Mr. Andrews; on his left by Dr. Casson, Dr. Bueckhardt, Mr. Postans, Mr. Luff, and Mr. Holmes. Professor Bentley proposed all the toasts, except the last to himself, in genial speeches, which were warmly applauded.

Dr. Casson responded for the medical profession, and referring to his experiences in the Russo-Turkish war, remarked on the preference shown both by Russians and Turks for English drugs. He strongly urged that medical practitioners should abandon dispensing, and he gently hinted that chemists in turn should reciprocate by abandoning all interference with medical and surgical duties. He had that day, in a court at Westminster, heard a chemist, who appeared as a witness, give his opinion in answer to the judge as to the probable duration of a bruise, and he considered that nothing in the education of a pharmacist enabled him to give an authoritative opinion on such a subject.

Mr. Greenish, in replying for the Pharmaceutical Society, said he thought no class of men were better able than chemists to discourse on bruises. Public analysts and co-operative stores had bruised them pretty sorely of late years. He then went on to speak of the new Pharmacy Bill; of the suggested curriculum, which he thought was of less importance than a better foundation of general education; and of the future of pharmacy, of which he took a more hopeful view than some. He urged the cultivation especially of that part of the business, pure pharmacy, which the grocer could not take away.

Mr. Branson, the President of the Association, replied to the toast of the Chemists' Assistants' Association. He said the Association had now more members and was financially stronger than ever before. The average attendance at their meetings was twenty-six. They had passed, he believed, beyond the apologetic stage.

The "Visitors," "The Pharmaceutical Press," and "The Chairman," were the remaining toasts, which were duly honoured. Songs by Messrs. Sell, Hartridge, Davies, and Phillips; instrumental performances by Messrs. Barker, Branson, and Dr. Casson, and recitations by Mr. O. Wallis and Mr. C. E. Stuart added variety and pleasure to the evening's entertainment.

MIDLAND COUNTIES CHEMISTS' ASSOCIATION, BIRMINGHAM.

THE Annual Soirée of the Association was held in the Town Hall, Birmingham, on Friday evening, January 21, and was attended by a large number of visitors, notwithstanding the very severe weather. The proceedings were of an unusually interesting character. The orchestra was nicely decorated with evergreens, giving a pleasing effect, and a large number of rare chemical and pharmaceutical specimens, industrial processes, and chemical and physical experiments were shown, all available room being occupied in the hall. The east upper corridor was occupied by Messrs. Southall Bros. & Barclay, who showed an extensive collection of specimens illustrating the composition of various kinds of natural waters, fresh and saline. These were so arranged that the specimens contained in the bottles and tubes showed at a glance the difference existing between them, both as to the quantity and quality of the dissolved matter; and, as a link with ancient seas, examples of deposited rock-salt were included in the exhibit, along with brine liquor and the various products manufactured from it. Genuine baysalt was shown, and also baysalt made by the slow evaporation of brine liquor at inland saltworks. A series of small aquaria, filled with artificial sea-water, made with a mixed sea-salt containing all the constituents of real sea-water (the "Aquarium" sea-salt), was shown, with marine animals in a living state. The rest of this corridor was occupied by the manufacture of essence of lemon. Messrs. Southall Brothers & Barclay, assisted by their correspondents, showed the sponge process conducted by two Italian girls in their national costume. The partly ripe fruit is peeled into three slices; after standing a day it is gently squeezed, and the exuding essence is absorbed by a sponge lightly passed over it. The sponge is squeezed out when full. A second quality of essence is made from the remaining peel by distillation. In the great gallery the same firm showed a large collection of rare and curious drugs, embracing most of the recent additions to *materia medica*.

Messrs. Harris & Co., Bull Ring, Birmingham, showed some Japanese products, some much more potent in medicinal activity than the corresponding European ones. Among these were Papaw leaves, which have the power of rendering tough meat tender and digestible; also Duboisia leaves, which have properties similar to belladonna, but are said to be three times stronger.

Messrs. Wyleys & Co., Coventry, exhibited a number of American drugs and new preparations which attracted much attention, and in addition a collection of educational microscopic slides.

Messrs. Evans, Sons & Co., Liverpool, showed a case containing all the drugs of the British Pharmacopœia, and a collection of all the varieties of Turkey opium which are now known in the market; also a collection of twenty-two derivatives of opium furnished by Mr. A. H. Mason, F.C.S., which were discovered in the course of experiments undertaken with the view of building up morphia. The harmonograph and umbragraph, both of which much interested the visitors, were here exhibited by Messrs. Dritler & Iles. In the west corridor a series of experiments were conducted under the direction of Dr. Tilden and Mr. C. J. Woodward, B.Sc. The image of a soap film was projected on a screen, and the beautiful prismatic colours produced were greatly admired. Mr. Holbrook showed the lengthening of a bar of iron by being magnetised, and an apparatus illustrating the cause of the phenomenon.

Mr. A. N. Cresswell showed a useful apparatus for sorting shot, &c.

Dr. Tilden lent some vacuum-tubes, and exhibited the beautiful spectra of incandescent gases—nitrogen, silicon, fluoride, &c.

In the lower corridor Professor Poynting showed Chladni's

vibration figures in sand and the figures produced by floating magnets, which excited considerable attention.

Here the process of electro-plating was shown and explained by Messrs. Barker Bros., Paradise Street, Birmingham, and many little articles were plated for visitors. Mr. H. L. Müller, Mary Ann Street, Birmingham, showed a large gas-making apparatus, making patent alpha gas for twenty-five lights. The lower opposite corridor was occupied by Messrs. Hind Bros., Suffolk Street, Birmingham, who showed the various processes of brushmaking; the cutting of the backs and stocks; the sorting and fixing of the bristles; the drilling, polishing, and finishing—all the processes in operation. The raw materials were displayed as well as the finished goods. Among the samples of hair shown was some said to have been cut from the heads of massacred Bulgarians. In a dark room by itself was exhibited by Messrs. Ihlee & Horne, Aldermanbury, London, Balmain's luminous paint. Substances painted with this material and exposed during the day to plenty of light are distinctly visible in the night.

The practical working of the telephone was shown by the Midland Telephone Company (Limited) in a room under the orchestra. This afforded much amusement to visitors unacquainted with the telephone.

During the exhibition Messrs. Synner & Gilmer's fine military band performed a selection of popular music in their usual excellent manner, and soon after nine dancing was commenced and continued to an early hour. All the arrangements worked very satisfactorily, and a most enjoyable evening was spent, all agreeing that it was one of the pleasantest and most successful of the annual *réunions* got up by this Association.

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.

THE annual supper of the above Association was held at the Flying Horse Hotel on Wednesday, January 26. Mr. W. H. Parker, the vice-president, occupied the chair in the unavoidable absence of Mr. R. Fitz-lugh, the vice-chair being taken by Mr. J. Lewis. Thirty-five members and friends were present, and a first-class repast was provided. After dinner the usual loyal toasts having been given, Mr. George proposed "Success to the Nottingham and Notts Chemists' Association," accompanied by a very suitable speech, which was replied to by the chairman. "The Lecturers" was responded to by Mr. C. L. Rothera, B.A. Messrs. Cockrem and Massey gave some pleasing pianoforte pieces, and Mr. Mark Meats also contributed to the enjoyment of the evening by a series of humorous and characteristic songs and impersonations. Messrs. Evans, Lescher & Co.; Mr. R. Taylor, of Messrs. Clarke, Bleasdale & Co.; Oldfield, Pattinson & Co., and Mr. J. S. Haywood promised handsome donations and prizes to the Association. The usual votes of thanks concluded the evening.

A CRICKET DINNER.

ON Friday evening, January 28, the members of the S.M.S. & T.C.C., which, being interpreted, means the S. Maw, Son & Thompson Cricket Club, held their second annual dinner at Champion's Hotel, Aldersgate. The club numbers over sixty members, and others engaged in the firm joining in the dinner, the company mustered between ninety and a hundred. The chair was occupied by Mr. Banks, and the vice-chair by Mr. Holdsworth. "The Firm" were very cordially toasted, and on their behalf Mr. Bayley, who had spent nearly fifty years in their service, responded in a speech which was warmly applauded, expressing high appreciation of the generous actions and the commercial energy of the principals. The secretary of the club, Mr. Hatherley, stated that negotiations were then pending for the engagement of a piece of ground at Nunhead for the ensuing season, and he had every confidence that a strong eleven could be put in the field. Already several matches were arranged. The speeches were interspersed with songs from gentlemen present, and an able pianoforte performance by Mr. H. Collingwood Banks, the organist of the Alexandra Palace. A remarkably clever ventriloquial performance was given by Mr. Wainwright, whose sudden changes of voice as he opened and closed a door were most skilfully managed.

PHARMACEUTICAL SOCIETY OF VICTORIA.

AMONG pharmaceutical festivities, we may note the annual dinner of the Pharmaceutical Society of Victoria, which was held at Melbourne on the 18th November last. Mr. Blackett, the president of the Society, occupied the chair, and in responding to the toast of the Pharmaceutical Society of Victoria, which was proposed by Dr. Moloney, he expressed gratification that other of the Australian colonies had followed in the footsteps of Victoria by establishing Pharmaceutical Societies. The Victorian Society was founded in 1857, New Zealand came next, New South Wales followed, and now Queensland, and there was a prospect of South Australia adopting the example of her sister colonies. They hoped soon to get an amended Pharmacy Act, which would limit the sale of patent medicines. He also hoped to see a school of pharmacy established under the wing of the University.

Mr. Bosisto replied for the Pharmacy Board, and Mr. Bowen for the Pharmaceutical Society of Great Britain and kindred societies, which was proposed by Mr. Francis. Mr. Bowen said it was a singular circumstance that Great Britain, which usually takes the lead in art, science, and literature, should be the last to recognise the necessity of establishing a school of pharmacy. Norway, a country possessing at that period a population of about 350,000 souls—less than half that of the colony of Victoria—was the first to do so, in the year 1673. France followed in 1803; the United States next; Germany in 1823; Russia in 1839; and, last of all, Great Britain in 1841.

The health of Mr. Shillinglaw, the honorary secretary of the Society, and registrar of the Pharmacy Board, was cordially drunk. He said he had successfully endeavoured to induce pharmacists outside the colony of Victoria to join their Society, and he mentioned that the circulation of their journal had trebled itself within the last three years.

Provincial Reports.

BOURNEMOUTH.

THE MONT DORÉ.—An announcement appears of the completion of the first issue of 10,000 shares of 5*l.* each, a considerable number having been already applied for. The object is to acquire a freehold estate at Bournemouth, in the best part of the town, and to erect thereon a large building, comprising accommodation for 130 residents, with every modern appliance for comfort and luxury. One special feature of the project is a system of baths, including all the varieties recommended by medical men, many of whom have already signified their approval of the scheme, and have taken shares. It is also intended to have a special adaptation of the celebrated Mont Doré cure, as practised in Auvergne, and an influential medical council has been formed to supervise the general arrangements. Shareholders are to be entitled to a reduction of 10 per cent. on the charges made in the establishment, in addition to whatever dividends may result.

CAMBRIDGE.

HEAVY SENTENCES ON CHEMISTS.—At the Assizes here, February 1, before Mr. Justice Lindley, John Tepper, a chemist, was charged with using a certain instrument with intent to procure abortion. Edward George Ransom, a chemist, and Annie Ransom, his wife, were charged as accessories before and after the fact. Mr. Bulwer, Q.C., and Mr. Cockerell prosecuted; Mr. Horace Browne defended Tepper; Mr. J. W. Cooper defended the prisoners Ransom. In the result, after a trial which lasted eight hours, the jury convicted all the prisoners, and they were each sentenced to five years' penal servitude.

EDINBURGH.

CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION.

The fourth meeting of the session was held on Wednesday, the 12th inst., in the rooms of the North British Branch.

Mr. J. D. Robertson, President, in the chair. Owing to the inclemency of the weather, the attendance was small.

The minutes of last meeting having been read and confirmed, the chairman expressed regret that, owing to illness, Mr. Reynolds was unable to read his essay on "Rhubarb," as expected, and called upon the secretary to read it in his absence.

In the essay, which gained the apprentices' prize last session, Mr. Reynolds treated the subject in a systematic and exhaustive manner, bringing the information regarding the source of the drug up to the most recent date. It was well received by the Association, and was generally spoken of as very creditable.

The following resolution was then submitted and unanimously agreed to, viz.:—

A member of any kindred Association coming to reside in Edinburgh, and having paid his subscription for the current year as a member of that Association, may be elected as a member of this Association without further payment for that year, on producing a certificate of membership from the secretary of that Association.

Several queries were afterwards submitted and replied to. In answer to the query, "What is the composition of the precipitate produced on adding an acid to infusion of chiretta?" it was stated that, by the action of acids, the chiritin present in the infusion was split up into ophehic acid and chiratogenin, a substance almost insoluble in water, and thus constituting the precipitate in question. The subject, however, seemed to require further investigation.

GLASGOW.

DEFICIENT CHEMICAL FOOD.—On February 10 a case came before Sheriff Balfour in which a Glasgow grocer was charged with contravening section 7 of the Sale of Food and Drugs Act, 1875, he having on the 13th ult. sold a bottle of compound syrup of phosphates or chemical food for infants, which was represented to contain, in every teaspoonful, $2\frac{1}{2}$ grains phosphate of lime and one grain of iron, but which, when analysed, was found to contain only about a third of a grain of phosphate of lime and a quarter of a grain of iron. He was liable to a penalty of 20*l.* The accused tendered a plea of guilty, and Mr. Bell, who appeared on his behalf, briefly addressed the Court. He pointed out that his client bought the bottles from a manufacturing chemist wholesale, and did not know the ingredients. He also mentioned that the difference in price between the "food" as sold and as it should be sold was only $\frac{1}{4}$ *l.* per lb. The Sheriff observed that the offence was not a serious one. His Lordship imposed a fine of 3*l.*

THE CHEMISTS AND DRUGGISTS' ASSOCIATION.—The fourth meeting of the session was held in Anderson's College on February 2; Mr. Robert Brodie, vice-president, in the chair. Mr. Archibald Paterson (Govan) read a paper on "A Visit to the late Gas Exhibition," describing the many uses to which gas was applied. After a discussion on this paper, another short paper on "Botany" was read by Mr. G. Gilmour. Mr. Gilmour's paper treated upon the various parts that go to form a plant, and showed diagrams illustrating his remarks. He recommended students to adopt the plan of Dr. Silver, which consists in cutting out in paper the various forms of natural leaves, and so impressing their shape on the mind. A discussion followed, and votes of thanks were passed to the authors of the papers. The Secretary, Mr. J. C. Hunter, placed upon the table a copy of "The Progress of Pharmacy," from the Pharmaceutical Society, and a copy of "The Year-book of Pharmacy," from the Pharmaceutical Conference. He was requested to thank the secretaries of both societies for the gifts.

HALIFAX.

HALIFAX AND DISTRICT CHEMISTS' ASSOCIATION.

At the usual monthly meeting of this Association, held on January 28, Mr. Shaw, president, introduced the clauses of the Amended Pharmacy Bill to the consideration of the meeting, and a long discussion ensued.

Mr. Dyer strongly objected to the clause compelling widows to sell their business within a certain period, thinking this would be hard in cases where a son was left who

was intended for the business, and who would not be of age in the time stated. He therefore moved the following resolution:—

That if on the death of a member of the trade a son is left of over 14 years of age whom the widow is desirous of qualifying, no compulsory sale of the business shall then take place, so long as the widow gives satisfactory proof that the business is managed by a properly qualified assistant, and that the son is being regularly trained to the business; this state of things to continue until the son be 22 years of age, when, if he has not passed his examinations, the business be then disposed of.

This was seconded by Mr. Hebden.

Mr. Councillor Brierly proposed, and Mr. Jessop seconded, an amendment:—

That the amended clause, compelling sale within three years, is best.

On being put to the vote, only the mover and seconder of the amendment voted for it, whilst all the other members voted for Mr. Dyer's resolution.

No resolutions were proposed in reference to the poison clause, a decided majority appearing in the discussion to be in its favour. It was intended to have discussed the patent medicine question, but the evening was too far advanced, so it was decided to leave that subject for next meeting.

LIVERPOOL.

LIVERPOOL CHEMISTS' ASSOCIATION.

THE seventh general meeting was held at the Royal Institution, Colquitt Street, January 20, 1881, the President, Dr. Charles Symes, in the chair.

The President called attention to the Pharmacy Acts Amendments Bill and invited discussion thereon, but as there were so few members present who were interested therein, it was decided to postpone the matter. Some discussion took place as to the desirability of such matters being brought before the Association, trade questions not being admissible.

Adulterated Linseed Oil.

Mr. A. H. Mason, F.C.S., called attention to the fact that a large quantity of adulterated boiled linseed oil had recently been shipped from the port, and he felt that the merchants of the city should know it.

The adulterant used is mineral oil; the adulterated sample is .9146 sp. gr., the sp. gr. of genuine boiled linseed oil being .940. The sp. gr. of the mineral oil used is .865, and it flashes at 280° F. Pure boiled oil does not flash until heated to 540° F. The adulterated oil flashed at 330° F. The adulterated oil does not dry after 16 times the exposure to the air, which serves for linseed oil of pure quality.

To determine the amount of adulteration present, the method known as Thomsen's was employed: the oil was boiled with an alcoholic solution of caustic soda to convert all the animal, vegetable, and fish oils into soap. This was then mixed with sand and treated and washed with pure petroleum spirit and distilled at a temperature under 190° F. The petroleum spirit dissolves out the mineral oil, leaving the soap insoluble. The spirit is then distilled off from the spirit solution of mineral oil at a temperature not exceeding 220° F., and the residue of mineral oil weighed and calculated on the weight of the original mixed oil taken. By this method 24 per cent. by weight of mineral oil was extracted, sp. gr. .8820, the sample itself being .9146, far below what genuine boiled linseed oil ought to be.

Mr. T. Farmer read a paper on "The History of Chemistry," treating his subject only in so far as the ancient history is concerned, and promising a further contribution in relation to the modern aspect of the subject.

Thanks to the authors of the papers concluded the meeting.

The eighth general meeting was held at the same place. The President in the chair.

Some discussion took place on the minutes of the previous meeting.

Mr. T. Farmer described the phenomena observed in connection with oils. He showed that in mixing common castor oil with mineral oil, the former took up a considerable portion of the latter, at the same time partially decolourising the remainder of the mineral oil.

The President exhibited a specimen of eugenol, a substance obtained from oil of cloves, said to have similar properties to thymol, but much stronger and more efficacious.

Indian Opium.

Mr. A. H. Mason, F.C.S., made some observations on Indian opium, calling attention to an advertisement in THE CHEMIST AND DRUGGIST, which stated that, in consequence of the falling off of the intrinsic merits of Turkey opium, the advertiser offered Indian opium, giving a splendid tincture. Mr. Mason had communicated with the advertiser respecting the existence of alkaloids in the opium, and asking for sample for determination. The reply showed that the advertiser had not made himself acquainted with the active properties of his opium, and he further learned from another source that he was not able to supply the opium when written to for it. Mr. Mason stated that it was a fact that Carralissa opium was a failure this season, and that manufacturers could not work it to profit against Persian opium, which also varies very much in quality; but he deprecated the idea of pharmacists being induced to try as a substitute an unknown compound against the official Turkey opium, which was still to be obtained of good quality for pharmaceutical purposes.

Mr. A. H. Mason, F.C.S., read a paper on "Peroxide of Hydrogen," its manufacture, properties, methods of determination, uses, &c. (See page 56.)

An interesting discussion followed the reading of the paper, in which the President, Dr. Tate, Mr. A. Watts, F.C.S., Mr. Thomas Williams, F.C.S., Mr. Conroy, F.C.S., and others took part, and on the motion of Mr. Shaw, seconded by Dr. Tate, a unanimous vote of thanks was accorded to the author for his paper. Mr. Mason replied to the various points raised in the discussion, after which the meeting terminated.

DEATHS FROM COUGH MIXTURE.—An inquest was held on January 28 and February 3 before Mr. Clarke Aspinall touching the deaths of two children, Joseph Haines Marshall and Henry Jordan Marshall, aged respectively four and two years, the children of Joseph Marshall, living in Elliot Street. It appeared from the evidence that the children had slight colds, but that two other children aged seven years and six months respectively had worse coughs. The father and mother went to the shop of Mr. Martin, chemist, 4 Quadrant, Lime Street, and described the complaints and ages of the children. The father told the chemist that they had been giving them oil of almonds and squills and violets. The chemist recommended a bottle of horehound and aniseed, and made up a special mixture for the baby. Henry Austin Neane, manager at Mr. Martin's, remembered supplying the medicines, but did not clearly remember the conversation. He should not have given any instructions contrary to those on the bottle. The mixture was merely squills and honey.

Mrs. Marshall said she gave about a teaspoonful of the mixture to each of the elder children, and that she found them dead on their faces in bed on the following morning. She said she had left the bottle about half full. Two servants stated that they had given none of the mixture to either of the deceased children, though some more had been given to the eldest child, and the bottle was produced empty.

Dr. Cameron had made a post-mortem examination, and found that the immediate cause of death was suffocation. From the history of the case, he was of opinion that a narcotic which had been administered had produced a state of stupefaction, after which the children had probably been suffocated accidentally by the bedclothing.

Mr. Edward Davies, analytical chemist, had analysed the contents of the stomach of the elder child, and found a slight but distinct trace of morphia.

Part of the directions on the bottle produced were:—"Dose for an adult—One teaspoonful three or four times a day, and two teaspoonfuls at bedtime; children under five years, 10 to 20 drops; above that age, about half a teaspoonful."

The Coroner, in summing up, said he did not see that responsibility rested with the chemist's shop, the articles purchased having been sold under proper conditions, and the question was what responsibility, if any, rested with the attendants; and, if there was any responsibility resting with them,

upon which and how many of them did it fix itself. They had gone in the face of the directions if they administered more than was mentioned. The labelling of medicine would not be of any use if a custom were to grow up or it was to be suggested that the label might be set aside, and a verbal statement were to be acted upon.

The jury found that the deceased died from suffocation, caused by an overdose of cough mixture incautiously given by the parents.

PLYMOUTH.

CHEMISTS ATTENDING CASES.—At an inquest held on January 21 on a woman, aged 70, who had died rather suddenly, it was stated that the deceased had declined to have a doctor sent for, but preferred to send for some medicine for a bilious attack to Mr. Butland, chemist. She got worse, however; a doctor was brought, and found she was suffering from strangulated hernia. He thought if a doctor had been sent for earlier her life might have been saved. The Coroner commented upon the habit of sending to chemists for medicine.

PRESTON.

PHARMACEUTICAL STUDENTS' SOCIETY.—At the fourth meeting of the third session Mr. S. J. Elliott read a paper on "Aloes," Mr. T. H. Greenall occupying the chair. In the course of his remarks Mr. Elliott stated that he thought the dec. aloes co. conc., when diluted, did not represent the decoction of the Pharmacopœia, as in repeated boilings a large amount of the active principle is precipitated. A spirited discussion followed Mr. Elliott's paper.

SHEFFIELD.

PHARMACEUTICAL AND CHEMICAL SOCIETY.—A meeting of the above Society was held on January 12; Mr. Ellinor, President, in the chair. A discussion occurred on the proposed Pharmacy Law Amendment Bill, at the conclusion of which the following resolution, on the motion of Mr. E. R. Learoyd, seconded by Mr. W. Ward, F.C.S., was unanimously adopted:—

That this meeting, after due consideration of the proposed Pharmacy Law Amendment Bill, cordially approves of the provisions of the same, and pledges itself to actively support it.

SUNDERLAND.

THE CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION have issued a programme for this their fifth session. The meetings are held twice a month, and five papers on practical pharmacy are announced, three lectures on pharmaceutical chemistry, and two lectures on materia medica. These are in addition to classes on pharmaceutical chemistry and materia medica. The society numbers 23 members and 21 honorary members.

RUBBER NIPPLES: SUPPLEMENTARY USES.

HENRY BIROTH, in the *Chicago Pharmacist*, describes a number of uses to which rubber nipples may be put in addition to their legitimate occupation on feeding-bottle tubes.

1. With a piece of glass tubing, drawn to nearly a point at the further end, you can make a *pipette* or *medicine-dropper*.

2. They will answer excellently as *suppository-moulds*. Hang them in the top of a tin seidlitz-box through which holes have been punched, dust the inside of the nipples with lycopodium, and disregard the perforation at the top.

3. Slip a nipple tightly over a moistened cork, and you have a *rubber stopper*.

4. *Funnels* and *safety-tubes* can be easily made by passing glass tubing through the nipples, flanging the tubes inside by softening the glass in a spirit-lamp, and making the rim with a pocket-knife.

5. Fix over a Florence flask or test-tube, and draw a piece of glass tubing through, and you have a substitute for a *perforated cork*.

6. For *luting corks* on tubulated retorts, instead of linsced-meal, &c.

7. For covering ether-bottles, &c., to prevent evaporation.

8. For a *syphon*, take a nipple with a glass tube through it. In the mouth of the nipple fix a doubly-perforated cork, through which pass two bent glass tubes. Indiarubber tubing can be attached to the glass tube.

9. Fix one over the third finger of your right hand when you are using a pencil, and you have most conveniently placed a perfect *pencil eraser*.

10. Cover a bottle with one and you have a *sprinkler*.

11. Cover for spirit-lamp.

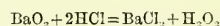
PEROXIDE OF HYDROGEN.

ITS MANUFACTURE, PROPERTIES, DETECTION AND ESTIMATION, APPLICATION AND USES.

(Read at the evening meeting of the Liverpool Chemists' Association, February 3, 1881.)

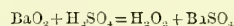
By ALFRED H. MASON, F.C.S.

THIS remarkable substance, though long known to chemists—having been discovered in 1818 by Thénard*—only attracted the attention of pharmacists some 20 years ago, when Dr. W. B. Richardson, of London, published the results of his experiments regarding its physiological and therapeutical action. Its occurrence in nature has only within the last few years received much attention; but since it has been shown that it exists in small quantities in the atmosphere, and it has been found in rain and in snow, and that all kinds of aromatic plants produce it liberally, and its application, commercially, is being rapidly developed, I felt that a communication to this Association respecting it would not be without value, especially as I failed to find much information respecting it in the ordinary text-books of a chemist and druggist. Gmelin† gives several processes for the formation of peroxide of hydrogen, dioxide of hydrogen, oxygenated water, H_2O_2 , but the method of the discoverer, Thénard, is given in elaborate and interesting detail, great precautions being necessary for its manufacture. He obtained it by acting upon barium peroxide with dilute hydrochloric acid—



and in practice, commercially, the rather crude method of transferring one atom oxygen from a peroxide of barium or other substance to water, by decomposing the peroxide with an acid forming a monosalt, is adopted.

I have placed myself in communication with several manufacturers, and desire to acknowledge the courtesy with which they have received my communication, but with all the process adopted is a secret. However, from the researches I have made, I venture to suggest that the method of Thomsen‡ is the one which receives most favour. Thomsen's method consists in decomposing hydrated barium peroxide with dilute sulphuric acid, thus—



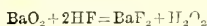
The sulphate of barium forms a white insoluble precipitate, while the peroxide hydrogen passes into solution at once. In the first place he is particular that the barium peroxide is pure, and for this purpose adopts the following method:—Finely powdered commercial peroxide of barium is dissolved in hydrochloric acid to neutralisation; to the filtered and cooled solution baryta water is added in sufficient quantity to precipitate foreign oxides (ferric and manganic), alumina, and silica until a faint precipitate of hydrated peroxide of barium forms. The precipitate is then filtered off, and the clear solution is heated with concentrated baryta water, which throws down the hydrated peroxide of barium. This is well washed upon a filter until the washings no longer evidence hydrochloric acid, the moist precipitate is then

* *Ann. Chem. Phys.*, viii., 366.

† *Ibid.*, vol. ii., 73.

‡ *Ber. Deutsch. Chem. Ges.*, vii., 74.

transferred to well-stoppered bottles, in which it will keep unchanged for a long time. To prepare peroxide of hydrogen, this moist hydrate is gradually added to a cold mixture of dilute sulphuric acid (of not less than five parts of water to one part of concentrated sulphuric acid), with constant stirring, and this is continued until only a trace of free acid remains, when the sulphate of barium is allowed to subside, the liquid is filtered and cautiously neutralised with dilute baryta water. When the aqueous solution of hydrogen peroxide thus prepared is brought over sulphuric acid *in vacuo*, water evaporates, and the solution of the peroxide becomes more concentrated. Where this method is not employed—probably the substitution of hydro-fluoric or hydro-fluosilic acid is used—



then either insoluble fluoride or fluosilicate of barium is formed, peroxide of hydrogen alone remaining in solution.*

Schonbein produced pure peroxide of hydrogen by agitating in a large flask under access of air, amalgamated zinc in powder, and distilled water.

Oxygen is absorbed by both the zinc and the water under formation of oxide of zinc, and peroxide of hydrogen. The latter, he says, is free from acid, keeps well without decomposition, and does not contain any metallic trace.

R. Böttger produced a peroxide of hydrogen, which, he said, was perfectly free from acid, and would keep for weeks in corked vials, and may be exposed to boiling temperature without decomposition. He presses the importance of this where the substance is required for medical purposes, the supposed instability having hitherto been a great drawback to its medical application.

Kingzett produces peroxide of hydrogen, H_2O_2 , *in situ* by the rapid oxidation of turpentine.

In the electrolytic decomposition of water peroxide of hydrogen and ozone are found, and their relations are peculiar, at one time it was conjectured that ozone was nothing else than peroxide of hydrogen. Peroxide of hydrogen being oxygenated water, that is water chemically combined, containing in its molecules more oxygen than water does (and not simply admixed as in the case of aerated water). Schonbein was led to regard ozone as peroxygenated water, or, in other words, a more highly oxygenated compound than peroxide of hydrogen, thus he represented ozone as equivalent to H_2O_3 ; peroxide of hydrogen, H_2O_2 ; water being H_2O .

But the investigations of Andrews, Brodie, Odling, and others have shown that pure ozone is free from peroxide of hydrogen, and is oxygen in a condensed state—not condensed in the sense that a given volume of gas may be made to occupy a smaller space by the influence of compression, but in the sense that the constituent atoms are so arranged that each whole molecule of ozone contains three atoms in space occupied by a molecule of oxygen consisting of two atoms.

It would not be of any service in this paper to detail the elaborate and patient investigations which have led to so much controversy amongst scientific chemists upon the distinctive characteristics of oxygen, ozone, and peroxide of hydrogen—further than stating that oxygen gas exhibits but few direct chemical reactions which are not also shared by ozone and peroxide of hydrogen—it differs from them, however, in being less active in its properties; for instance, when brought in contact with a solution of iodide of potassium it does not exercise any influence upon it; it has no colour, taste, or smell; it has not any action on litmus paper, does not oxidise silver, and it is stable at all temperatures, and it has such general negative characters that we can readily and unmistakably discriminate between it on the one hand, and ozone and peroxide of hydrogen on the other.

Dr. Cornelius Fox, in a work upon ozone, has fully epitomised the amount of work which has been devoted to the study of this subject.

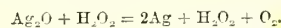
I do not either purpose entering into details upon the various processes by which peroxide of hydrogen has been shown to exist in nature. C. T. Kingzett's work upon "Nature's Hygiene" fully describes these.

Properties.—Peroxide of hydrogen is a colourless transparent oily liquid of sp. gr. 1.452, does not freeze at 22°F .

evaporates *in vacuo* at ordinary temperatures without decomposition, though much less readily than water, does not redden litmus, but gradually bleaches both litmus and turmeric paper, has a harsh bitter taste similar to that of tartar emetic; whitens the tongue, and thickens the saliva; when placed upon the hand it instantly turns the cuticle white, and after a time produces violent itching. It has a faint odour reminding both of ozone and chlorine. It retains the second atom of oxygen in a very loose state of combination, it escapes from the water under various circumstances, sometimes so rapidly as to cause violent effervescing, evolution of heat, and even explosion accompanied sometimes with a flash of light.

The decomposition is effected by contact with the binoxide with carbon, binoxide of manganese, various other metallic oxides, by several metals, alkalies, and also by heat. Some oxides in effecting its decomposition are reduced to the metallic state, or to a lower state of oxidation, such as oxide of gold, silver, mercury, and the red and brown peroxide of lead.

In the case of silver, for example, the anhydrous compound is decomposed into oxygen and water. The same decomposition is also stated to take place with a dilute aqueous solution of peroxide of hydrogen, and the reaction represented by the following:—



Here is the remarkable phenomenon of a powerful oxidising agent exerting a reducing action upon metallic oxides, the metal being formed. The explanation, however, lies thus: silver possesses only a weak power of combination for oxygen, and the oxide very easily decomposes into its elements. When oxide of silver is brought into contact with peroxide of hydrogen, which itself contains one atom of oxygen but feebly united, an analogous reduction takes place, the one atom of oxygen in the peroxide combining with the one atom of silver in the metallic oxide to form a molecule of free oxygen.*

The decomposition of peroxide of hydrogen is assisted by the contact of many substances (notably alkalies), and particularly by those which are themselves in a state of change or decomposition. On the other hand, the presence of a little ordinary ether restrains the decomposition, and not unlikely, the reason for this is to be found in the fact that ether itself gives rise to the production of peroxide of hydrogen by contact with air or oxygen.

Peroxide of hydrogen is miscible with water in all proportions, and also combined with the hydrated acids with which it forms compounds in which it is less easily decomposed than when uncombined. It bleaches organic colouring matters, and as a bleaching agent is probably the most perfect form that will ever be discovered. The second atom of oxygen uniting with the hydrogen or carbon of organic matter, and the result being simply reaction, or water and carbonic acid—no acid as in the case of chlorine breaking up (and so bleaching) an organic compound by uniting with the hydrogen, hydrochloric acid being formed; or sulphurous acid uniting with oxygen and producing sulphuric acid; or permanganate of potash uniting with hydrogen and depositing brown oxide of manganese and a salt of potash, &c.

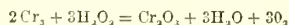
Detection and Estimation.—In order to detect the presence of peroxide of hydrogen in solution the liquid is rendered acid with sulphuric acid, some ether, and a few drops of solution of potassic chromate are added, and the solution well shaken (care must be taken in testing a *made* solution containing the peroxide of hydrogen of commerce, as violent effervescence takes place). If hydrogen peroxide be present the solution assumes a beautiful blue colour, and on allowing it to stand the colour is taken up by the ether and a deep blue layer separates out—this blue compound is perchromic acid, and the reaction may in a similar way be employed for the detection of chromium.

When hydrogen peroxide is added to a solution of potassic iodide and ferrous sulphate, iodine is set free, as may be easily proved by the formation of blue iodide of starch (Schonbein). This reaction is so delicate that one part in 20,000,000 may be detected; other oxidising agents have the power of liberating iodine, but not in the presence of ferrous

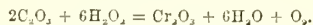
* Abel and Bloxham, p. 117.

* The author was unable to verify this statement after repeated experiments.

sulphate. Thus, with chromic acid it first of all forms a blue colour, the oxygen is then gradually evolved, the colour fading at the same time.

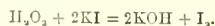


If an excess of peroxide of hydrogen be used in this experiment then a further reaction occurs, in which the H_2O_2 loses exactly double the amount of oxygen lost by the chromic acid; so the ultimate result is



The strength of peroxide of hydrogen may be estimated by the following method:—A given volume is taken and placed in a tube with excess of potassic bichromate: on agitation over mercury a volume of oxygen gas is evolved, which, supposing 1 c.c. of H_2O_2 has been taken, expresses its strength in so many volumes. Thus, 1 cc. of a 10-volume solution would yield 10 c.c. of oxygen at 0°C . and 760 mm. pressure.

E. Schöne's experiments upon the various re-agents for peroxide of hydrogen have resulted in his being able to detect 1-200,000,000th with certainty, and, with some practice, 1-250,000,000th; but for the quantitative determination of hydrogen peroxide he does not consider these methods sufficiently sensitive. He therefore adopts a colorimetric test, which depends upon the formation of iodide of starch, when solution of potassic iodide and starch are added to the liquid containing peroxide of hydrogen. He compares the intensity of the blue colour produced in a given volume of the liquid, tested with a series of liquids of like volume, in which definite quantities of peroxide of hydrogen have been acted upon by potassic iodide and starch-water, and which are contained in clear glass-stoppered bottles of like shape and size as that in which the test-liquid is contained. Ten such vials, representing 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0 milligram of hydrogen peroxide to the litre, constitute his colorimetric scale, by which he is enabled to determine the 1-18th milligram of H_2O_2 in a litre accurately, and the 1-100th milligram approximately. To ensure accuracy the colorimetric scale is prepared fresh every two weeks.* This test depends upon the fact that a neutral solution of hydrogen peroxide gradually liberates iodine from a neutral solution of potassic iodide, thus:—



Applications and Use.—Peroxide of hydrogen of commerce is a solution of from 30 volumes to 10 volumes, i.e., a solution capable of evolving the quantity indicated of gaseous oxygen when fully decomposed—thus a 10-volume solution represents the following;—100 c.c. evolves 1,000 c.c. oxygen, or, in other words, it contains 3.04 per cent. by weight of H_2O_2 , and evolves 1.45 per cent. of oxygen by weight. There is not much difficulty in obtaining this solution by exhausting the quantity of oxygen contained in the peroxide of barium employed in the process.

Respecting our knowledge of the physiological and therapeutical action of peroxide of hydrogen, the medical profession is indebted to Dr. W. B. Richardson, of London. In relation to its influence on organic bodies,† he found that to venous blood deprived of its fibrin it imparts oxygen with an increase of heat, and a change of the colour to red. Fibrin and cellular tissue cause it to evolve oxygen. Sugar and starch are decomposed by it, giving out carbonic acid. Albumen (gelatine), urea, and cutaneous tissue have no effect on it. Injected into the left cavities of the heart of an animal, it restores the irritability of that organ, but has an opposite effect in the right cavities. Thrown into the arteries immediately after death, it restores for a time the contractile power of the muscles, and suspends cadaveric rigidity, while it counteracts the influence of various medicinal substances that cause muscular spasm. Dr. Richardson inferred from his experiments that the peroxide might be useful as an antidote to the narcotic poisons, as a local application to gangrenous ulcers, and as an internal remedy in low forms of fever.‡ Subsequently, from various therapeutical trials of the remedy, he came to the conclusion that it is of great

value in chronic and subacute rheumatism; acts in the removal of serofulous tumours like iodine; relieves the paroxysms of whooping-cough, and cuts short the disease more effectually than any other medicine; affords great relief in chronic bronchitis with dyspnoea; and in phthisis operates favourably in the early stage by improving digestion and giving increased activity to the chalybeate remedies, while in the advanced stages it affords great relief to the dyspnoea and oppression, acting, indeed, in this respect like opium, without its narcotic effects. In general, it seemed to him to improve digestion, and therefore be useful in cases complicated with dyspepsia. Some times, when freely employed, it produced profuse salivation, suggesting the idea that it might in other respects resemble mercury, and possibly be found capable of replacing it, to a certain extent, in the treatment of disease. Dr. Day,* Geelong, reports cases of diabetes which resisted ordinary treatment for three years yielding under the influence of an ethereal solution of peroxide of hydrogen; but the experiments of Dr. Richardson† and Dr. Pavy‡ show that whilst it exercises considerable effect in diminishing the discharge of urine and the secretion of sugar, did not prevent fatality.

Locally employed, peroxide of hydrogen sometimes acts very beneficially, especially in feeble, flabby, or ill-conditioned ulcers, in chancre and diphtheritic sores, in all of which it operates, not as a corrosive substance, but probably by imparting oxygen to the diseased tissues, and thus destroying them.

One would almost think from the foregoing observations that we had a panacea for "all the ills that flesh is heir to," or even wonder, since the more recent demonstration of its existence under certain conditions in nature, that these ills are present; but I am informed that the medical profession have given it a trial, and it has been found wanting, and they naturally hold these statements as impracticable, being unable to accomplish them. For medicinal use the quantity sold is very small. Dr. Richardson recommends the 10-volume solution. Dose, $\frac{1}{2}$ drachm to 2 drachms; but there is a large quantity of the so-called ozonic ether used in medicine, which consists of a compound of absolute ether, with peroxide of hydrogen, expressly made of 30-volume strength.

The best-known application of peroxide of hydrogen is probably in its employment as an auricome for bleaching dark-coloured hair, producing the yellow tint: for this purpose a 10-volume solution is used, the hair is saturated with it, and then exposed for two or three days, when the oxygen is liberated and the hair partly decolourised; if wanted in a shorter time, after immersion the hair is dried in a water bath for a few hours, but the ultimate result is not so satisfactory. A London hairdresser produces white hair, and it is conjectured that he employs a 20-volume solution, with the addition of strong solution of ammonia, and so completely decolourises and bleaches the hair, at the same time rendering it practically destroyed excepting so long as it holds together.

Peroxide of hydrogen was once proposed for bleaching blood serum with the view of obtaining colourless albumen, and effectually, but it was found too expensive for practical application. Its use in the laboratory for analytical purposes has found some favour for the oxidation of sulphides into sulphates, &c., with the view of rapid estimation, &c.

It is also used for cleaning and bleaching old engravings and oil paintings, &c.; also for bleaching oil, wax, ivory, and tobacco, and for these purposes the addition of a little liq. ammon. fort. 880° renders the feebly-combined oxygen more willing to leave the water. It is also used for certain purposes of printing colours on various fabrics; it is also the chief constituent of the antiseptic disinfecting fluid called "Sanitas"; for these latter purposes the peroxide of hydrogen produced by Kingzett's method is preferred.

It was its application to the bleaching of ivory that has led me to bring the subject before your notice this evening. It is used in Sheffield to bleach the inferior ivory for knife-handles. The liquid is supplied by an ivory-dealer in London, and it consists of an aqueous solution of peroxide of hydrogen, of which it contains 2.9 per cent. of rather crude H_2O_2 .

* *Ph. Centralhalle*, No. 45, 1875, p. 380.

† *Lancet*, October 20, 1860.

‡ *Lancet*, April, 1862.

* *Lancet*, January 11, 1868.

† *Medical Times and Gazette*, December, 1868. Page 662.

‡ *On Diabetes*. 2nd Edition. Page 268.

The mode of procedure is as follows* :—Place, say, 2 quarts of the liquid in a stone pot, adding 4 oz. liq. ammon. fort. 880°, immerse the handles, and put over a common shop stove for 24 to 35 hours; the handles are then taken out and gradually dried in the air, not too quickly, or they would split. The deep colour of the ivory is removed, and a beautiful pearly-white ivory results when polished. The ivory is previously treated with a solution of common soda, to get rid of greasy matter and open the pores.

Peroxide of hydrogen is manufactured largely in this country, also in America and in Germany, but that of English manufacture maintains a superiority, as it is still largely exported to those countries.

I feel convinced that the manufacture of this substance is well worthy of the attention of scientific and manufacturing chemists, its present cost being prejudicial to its employment. If a cheap article could be produced, its uses would be almost unlimited, and I think I have shown that mankind would be considerably benefited thereby.

ADMISSION OF FOREIGN PATENT MEDICINES INTO RUSSIA.

THE Imperial Russian Medical Council of the Ministry of the Interior, observing that a great many applications for the admission of foreign patent medicines into Russia for sale are made not in accordance with the regulations for such applications, has thought it desirable to republish those regulations, which are as follows :—

1. The application for permission to import into Russia a patent medicine must be franked to the Manufacture and Trade Department of the Ministry of Finance, and not to the Medical Department. The application must bear two stamps, each of the value of 60 copeks, and every supplementary sheet must bear one such stamp.

2. The exact particulars of the preparation of the remedy submitted must in no case be omitted.

3. Only such remedies can be considered, investigated, and tested by the Medical Council as have been already examined and approved by a foreign medical faculty, or by some learned institution of similar standing.

4. The remedy submitted must be so packed that its properties shall be in no way affected by transport or by keeping.

5. The remedy must not contain any poisonous substance.

6. Besides the foregoing conditions, rights of entry can only be given to remedies the method of preparation of which necessitate the employment of special apparatus and instruments, or need particular skill and dexterity, to be acquired only by long practice.

7. No advertisements recommending the remedy in the public journals are to be inserted without the permission of the authorities (Censurbehörde).

8. All transport and other expenses incurred in submitting the remedy must be borne by the applicant.

[The above is translated from the *Pharm. Centralhalle*, January 20, 1881.]

THE ACTION OF CHEMICALS AS MEDICINES.

PROFESSOR W. RAMSAY read a paper at a meeting of the Bristol Naturalists' Society, on February 3, "On the Connection between Chemical Constitution and Physiological Action." We are indebted to the *Western Daily Press* for a report of the lecture. After referring to a memoir with a similar title, lately presented to the Royal Society of Edinburgh, by Drs. Crum Brown and Fraser, Professor Ramsay proceeded to remark on the identity of the laws which govern chemical action, whether in the body or in the laboratory, and in illustration adduced the cases of respiration, oxidation, and digestion. We find the same laws governing the action of drugs, the efficacy of which would be greatly increased by a more intimate knowledge of the

chemical changes produced by disease, so that we ought not to regard as idle experiment any efforts in this direction. Beginning with the simpler chemical compounds, we find that those which form part of the animal organism—*e.g.*, chloride of sodium, or common salt—do not prove injurious, unless administered in excess; if, however, we attempt to substitute one substance for another which is chemically allied to it, disease is the immediate result, though time may produce a certain acclimatisation, so to speak. The case is different with large doses of compounds which are incapable of assimilation; for here we have a specific action set up, which is communicated to different parts of the body. Professor Ramsay, who has devoted considerable time and attention to examining the effects of certain drugs on animals, more especially such as are employed as anaesthetics, proceeded to give an account of his experiments. Beginning with bodies of a simpler character, he took phosphorus. This substance, in its most highly oxidised state—phosphoric acid—is, strictly speaking, poisonous only when administered in a concentrated form, producing local irritation; yet its lower oxides, and phosphorus itself, are highly injurious, while its compound with hydrogen is fatal to life even when diluted in the proportion of 1 to 1,000 of air, the blood after death in such cases presenting a venous character, showing that the gas has prevented complete oxidation. Some very poisonous substances are supposed to owe their injurious properties to the facility with which they combine or part with oxygen. Among these is arsenic, the poisonous nature of which is well known. It forms two oxides, which are mutually convertible. The presence of a small quantity of such substances as have not acquired their full complement of oxygen is sufficient to interfere with the due oxidation of the blood. Some poisons owe their action to the fact that they combine chemically with the hæmoglobine, thus altering its character, so that its functions fail to be performed. As an example of this class may be cited carbonic and nitric oxides, as well as prussic acid. Some bodies, on the other hand, appear to owe their characteristic properties as regards physiological action to the decomposition undergone in the body, of which nitrous oxide, or laughing gas, may be taken as an instance. This gas does not support combustion, unless it is decomposed; and when taken into the lungs along with air, it is most probably resolved into its constituents. Professor Ramsay now passed to the consideration of anaesthetics, for the investigation of which a committee was appointed by the British Medical Association, at their meeting in Manchester in 1877, and of which committee he was a member. The experiments were made on dogs, rabbits, and frogs. The first substance tried was amylen, as Dr. Snow, many years ago, had reported favourably regarding its anæsthetic qualities. It was administered by inhalation, as well as by subcutaneous injection; but it proved inoperative. One of the experimenters likewise subjected himself to its influence, but without any anæsthetic result. Benzene was next taken. Its effects were similar to the foregoing with the exception that it produced struggling; the heart's action was also weakened. The chlorides were next investigated, the first in order being methyl chloride. The animal became drowsy, but complete insensibility was not produced. Ethyl chloride followed, the effects of which were quite different, anæsthesia being rapidly produced, but respiration was soon arrested. Here we observe the specific action of chlorine in producing anæsthesia, together with that of carbon and hydrogen in producing convulsions, which set in at the end of the experiment. Owing to an observed connection between chemical composition and physiological action ethene chloride was next tried, which fully justified the anticipations formed regarding it, as it caused convulsions, which terminated fatally. Ethidene chloride, on the contrary, produced perfect anæsthesia, no nervous irritation supervening; in fact it was found to be the most reliable of the substances experimented with, and since the date of these investigations it has been extensively used in preference to chloroform, which has a tendency to act powerfully on the heart, at the beginning and end of its administration. Professor Ramsay further prepared a body similar in constitution to ethidene chloride, *viz.*, acetone chloride, which gave results equally favourable. Ether still holds its place as an anæsthetic, the heart's action being little affected by it. In the course of these experiments the amount of carbonic acid given off by the animal was found to increase

* I am indebted to Mr. W. Ward, F.C.S., and Mr. Fretwell Hudson, of Leeds, for this information.

half per cent. during the influence of the drug, and to return to the normal at the end of the experiment. Professor Ramsay finally referred to the experiments of Drs. Crum Brown and Fraser on strychnine and its derivatives. This powerful poison owes its potency to its effects being concentrated on the spinal cord. There is a striking contrast, however, between its action and that of its derivatives, as has been shown by experiments on rabbits, a dose of even 12 grains of methyl-strychnine having been given to a rabbit without any visible effect. Thebaine, codeine, and morphine, all opium alkaloids, on investigation also showed differences of action between each substance and its derivatives. In conclusion Professor Ramsay summed up the results of his experiments as follows:—

1. Hydrocarbons have very little action on the animal organism.
2. The introduction of oxygen, when the resulting substance is of such a nature as to cause local irritation, yields a body which acts on the organism; a low molecular weight coinciding with a transitory effect.
3. Compounds containing chlorine all act on the organism, by causing irregular action of the heart; while carbon and hydrogen in such compounds irritate the nerve centres.
4. The action of nitrogen is various.
5. Increase of molecular weight corresponds with increased toxic action.
6. Polymeric bodies differ in their action from the simpler ones from which they are built up.

THE ROYAL MINT.

DURING the time of the Franco-Prussian war, when the trade of France and Germany was paralysed, that of this country was stimulated to an extraordinary extent, and the pressure put upon the Mint for the necessary supply of coin was such as to call serious attention to the inadequate provision which the present premises provide for sudden pressure. This consideration induced the Government to look favourably upon a scheme embodied in a Bill, recently introduced into Parliament, for the erection of a new Mint on the Thames Embankment upon the site lately occupied by the Gas Company, between the new City of London School and the Temple. The Bill has been withdrawn, but it is almost certain to be introduced this session, and almost equally certain to be passed. Some five or six years may elapse before the New Mint is erected; but that the Old Mint is doomed may be looked upon as a foregone conclusion. The present building was erected in the year 1806, and was occupied four years later. Previous to that time minting was carried on in the Tower, hard by; but just about then the trade of this country became so expanded that it was found impossible for the narrow limits of the Tower to furnish the necessary requirements of coin. Hence a new Mint was determined upon, but in such a position that it could be covered and protected by the Tower guns. Possibly such a precaution will be smiled at just now, when a single ironclad, with its 80-ton guns, could dismantle the ancient fortress in forty minutes; but even in the days of Waterloo, and still later, when the hero who won that victory was Constable of the Tower, it was considered that the Mint was perfectly safe when protected by guns. A promenade through the magazine of bullion is as pleasant an one as can readily be suggested. In bars of various dimensions, gold and silver ingots come, procession wise, to the receiving and delivery office of the Mint, where they are registered, assayed, and the requisite quantity of alloy apportioned. Thence they are sent down to the melting-houses, where the furnaces are red hot with coke fire, greedily devouring the surrounding atmosphere, and are cast into Morgan's patent plumbago crucible, which for gold is constructed to hold 1,200 oz., value of about 5,000*l.*, and for silver 3,000 oz. Before the metal is given to the workmen, it is weighed by accurately-constructed balances, by which its weight is again ascertained after it has passed through the melting-pots, so

that it is impossible there can be any discrepancy undetected. Our bronze pieces are made up of 95 parts of copper, 4 parts of tin, and 1 part of zinc, so that the present penny need not be held in such intrinsic contempt as it usually is. In a sovereign and half-sovereign there are 22 parts fine gold and 2 parts copper, whilst our silver coins are composed of 37 parts fine silver and 3 parts copper. The gold, silver, or bronze metal, on being lifted out of the furnace, is poured into moulds, out of which it issues in long bars, which are trimmed of their rough edges by means of circular files worked by steam-power. In the case of gold and silver a piece is cut from the end of the first and last bar, and sent to the assay office to have its purity verified. The bars are then taken to the rolling-room, where they are reduced to the thickness requisite for the denomination of coin which they are intended to represent. Bronze fillets have here to be "pickled," or blanched in a solution of sulphuric acid, in order to remove all traces of the oxidation consequent upon their exposure to air after annealing. Then the different thicknesses are ascertained by a gauge finely graduated in thousandths of an inch, so that any difference is simply infinitesimal. Sovereign bars require no annealing, but half-sovereign bars, in consequence of their exceedingly slender proportions, are subjected once to that operation. Afterwards the bars are carried into the adjusting-room, where the "Trier"—who is the foreman of the room—ascertains, by means of cutting out trial "blanks" from each fillet, whether they come within the "remedy" or allowance for over or under weight granted by Act of Parliament. Here the weight is regulated to the 100th part of a grain. After undergoing other test processes the fillets are taken to the cutting-out presses, which punch out two pieces at a blow, and these being sorted and the edges raised at the rate of something like 600 a minute, the next operation is the annealing of the "blanks," or discs, and for this operation Morgan's plumbago annealing pans are used, so as to soften them to receive the impression of the die. Hence they pass through the drying-room, where the pieces are cleaned and finally dried in hot sawdust, and so on to another room, where the most interesting operation of all takes place—that of stamping the metal and turning it into current coin of the realm. The lever coining presses which now perform this office in all the mints of Europe have superseded the older inventions, inasmuch as they do the work more expeditiously, with less noise, and with fewer imperfect pieces, or "brokages." Last scene of all that ends this strange, eventful history is the weighing department, where automatic balances of the most exquisitely delicate workmanship distinguish between light, medium, and heavy coins—the first and last being sent back to the melting-pot, whilst the medium are passed for public circulation; not, however, before they are tested as to their soundness and freedom from flaw by boys who strike them on iron blocks—an operation which, perhaps, originated the simile "the ring of the true metal." The approved coins are then made up in bags called "journeys," and sent to the Mint Office, which performs the duty of issue. The present Mint is capable of coining 120,000*l.* worth of gold per diem, or 10,000*l.* of silver.

MEDICAL COMMENTS ON THE NEW PHARMACY BILL.

The Lancet, January 15, writes:—

The Council of the Pharmaceutical Society have for some time been engaged in framing a draft of a Bill for the amendment of the Pharmacy Act, and have just published the result of their deliberations. The immediate cause of the proposed addition to the legislative regulation of the trade is apparently the decision of the legal tribunals by which the action of co-operative societies in dealing in drugs is declared not to be against the law. Its main object is evidently to render such action illegal, and the chief clauses are framed for the purpose of altering the wording of the Pharmacy Act on which the recent decisions were based, so as to exclude co-operative stores from the right of practising pharmacy. As the *Pharmaceutical Journal* remarks, "a challenge is thus thrown down to the several

opponents of those interests which the chemist and druggist is convinced ought to be protected. It is a step which means war to the knife with co-operative stores and their stimulators, in regard to the practice of pharmacy."

Opposition to the Bill is anticipated, it would thus appear, by those who propose it, and that their anticipations will be verified is scarcely doubtful. The object of the proposed addition to the Act is, it is frankly admitted, to afford protection to the pharmacists, a protection which, it is urged, they may claim on account of the study and knowledge now demanded of them before they can engage in their occupation. But in their statement of the case and of their expectations one consideration is apparently overlooked. Neither the Pharmacy Act nor the Medical Act was intended for the protection of the class which it regulates; each was for the protection of the public. For the attempt at amendment of the Pharmacy Act in this particular to be successful, it will be necessary not merely to plead the claims of the pharmaceutical chemists to "protection," but to show that, in the practice of pharmacy at co-operative stores under the direction of a qualified pharmaceutical chemist, any danger to the public is incurred. This, we conceive, they will find by no means an easy task.

Some other clauses of the Bill are likely to meet with little opposition, and may be regarded as real amendments. One of these provides that patent medicines containing poisons within the meaning of the Pharmacy Act shall be subject to the regulations as to labelling and otherwise now in force as regards the ordinary sale of such poisons; and it makes the sale of a patent medicine, whether by wholesale or retail, containing a scheduled poison, without due labelling, an offence punishable by a fine not exceeding 5*l.* on the first occasion, and 10*l.* upon any subsequent occasion, upon summary conviction. This is a very desirable provision, on account of the great number of fatal accidents which have arisen from the misuse of secret remedies containing poison. By another clause the onus of properly labelling these medicines is thrown upon the makers, not the vendors of them. Another provision exempts all chemists and druggists carrying on business on their own account from serving on juries, a just and reasonable proposal. Widows are left as under the present Act, but the time during which executors may carry on a business on behalf of widows is limited to three years, unless this period is extended by the Pharmaceutical Society.

The following article appears in the *British Medical Journal*, February 5:—

The necessary connection between medical practice and pharmacy renders it advisable, from time to time, to watch any changes which may occur, or be attempted, on the part of the Pharmaceutical Society. Professedly, that Society was established to improve the qualification of the dispenser of medicine; it was encouraged in that effort by many leading members of the medical profession, who saw that the advance of what has been called "pure practice"—*i.e.*, the separation of prescribing from preparing medicine—would be facilitated by the greater dependence on chemists. That such a result has arisen, we are bound to admit; and, now that no man can hold himself forth as a "chemist and druggist" unless he has been duly examined and registered, prescribers have not the anxiety they formerly had as to the accuracy of the dispensing, and the quality of the medicines necessary for their patients.

We are led to these remarks by the perusal of the draft of a Bill which the Pharmaceutical Society proposes to submit to Parliament for the amendment of the Pharmacy Acts already in force.

The first proposition contained therein is to secure some further power to regulate the examinations: not, apparently, to alter the subjects on which candidates are to be tested; but, as we are informed, to enable the Society to enforce passing the "preliminary examination" at the very threshold. Inasmuch as the preliminary has regard only to primary education, and has been given in charge to the College of Preceptors, this is clearly a move in the right direction; it would secure young men of better education, in the first instance, and leave their period of pupilage more available for the acquirement of the technical knowledge necessary for a careful dispenser.

When the Pharmacy Act of 1868 was passed, due regard was held to vested interests; and it was provided that all men who had been in business on their own account prior to that date, might, on application and proper certificate, be registered as chemists and druggists. It is now proposed to close that door of admission after a period of two years, sufficient time having elapsed for all such men to preserve their rights.

The more important provisions of the Bill follow. In the first place, whereas, under the present law, the prohibition as to compounding only extends to medicines containing certain scheduled poisons, hereafter it is proposed to confine the right of dispensing all "medical prescriptions," whether they contain poison or not, to qualified men. Clearly it is of importance to a prescriber that his doses of medicine, whether enumerated in an arbitrary schedule or not, should be accurately administered; therefore, we see no objection to this. Perhaps some more definite words than "medical prescriptions" might be used.

Secondly, the Act of 1868 made a special exemption in favour of "patent medicines;" and although no person can buy laudanum, chloral, and other scheduled poisons, in their simple form, save under certain restrictions and safeguards, anybody may sell, and anybody may buy, the same dangerous articles, in the form of "patent medicines," without let or hindrance. As a result, coroners' inquests on persons killed by the improper use or abuse of them, have been frequent; and we believe the attention of the Council of the Pharmaceutical Society has been called to that fact by Government. Under these circumstances, "patent medicines," containing poisons, are to be brought within the category of poisons. Short of abolishing "patent medicines" entirely this is, perhaps, the best course to be taken, and the most likely to mitigate the evil arising from the indiscriminate administration of quack remedies, which may fairly be regarded as, if not illegal, certainly illegitimate practice.

The third proposition may raise opposition from the general public, although a matter of no moment to the medical profession, as such.

The recent decision in the Court of Appeal, that the restrictions placed on the sale of poisons by unregistered persons does not extend to companies or corporations has naturally caused much excitement in the Pharmaceutical Society; and, as an outcome, the thirteenth section of the proposed Bill states distinctly that, in construing certain clauses of the Acts of 1852 and 1868, "the word 'person' shall include corporate bodies."

The advocates for the defendant, in the case alluded to, contended (beyond the plea that a corporation could not be regarded as a person, on which the decision actually depended) that, so long as the drug department of a company was in charge of a qualified person, the public safety was secured, and the terms of the Pharmacy Act complied with. To this the Society reply that the privilege conferred by the Act, as well as the requirement of qualification, was intended to be personal, arguing, on behalf of chemists generally, that, having been put to trouble and expense in qualifying for their business, they are entitled to a certain equivalent advantage. They contend, also, that the public safety will be better cared for under such a condition; that, as the conscience of an association of men is always less strict than that of the same men individually, so the supervision of a board of directors will be less effective than that of individual proprietors. "That which is everybody's business is nobody's business." We think these points deserve consideration.

There is one other matter which we had almost overlooked, although we find it has special reference to ourselves. Section 4 of the proposed Bill repeals Section 11 of the Pharmacy Act of 1852, which provided that no member of the medical profession should be registered under that Act; and that, if any pharmaceutical chemist advanced to the profession, his name should be erased from the *Pharmaceutical Register*.

There is no probability of medical practitioners seeking to be admitted to a register outside of, and socially unequal to, their own; but the converse does occasionally happen: and when a pharmaceutical chemist joins our ranks, it appears, the Pharmaceutical Society may still be glad to retain him in alliance if he be so inclined.

FORMULÆ OF SECRET MEDICINES.

The Formulæ given below are translated (by special permission of the author) from a German collection compiled by Mr. Edward Hahn, Apotheker. The names following most of the Formulæ are those of the authorities quoted for the analysis. The weights are almost invariably given in metric denominations. A gramme is equivalent to 15½ grains. The prices quoted are the nearest English equivalents to the original retail price.

[g. = grammes; p. = parts.]

RHEUMATISMUS POMADE (J. Brause, Berlin).—A mixture of coconut oil, soap, bayberry oil, ammonia, camphor, rosemary oil, thyme oil, and spirit. 27 g., 1s. 6d.—*Hager*.

RHUBARB MENTEL.—Rhubarb powder, 1; sugar, 3; made into a paste with sufficient marshmallow mucilage, cut into comfits and dried.—*Reveil*.

RICORD-TINKTUR, for old syphilitic discharges (Fr. Schwarzlose, Berlin).—A salve of yellow wax, fat, and olive oil. 40 g., 6s.—*Hager*.

INFALLIBLE PRESERVATIVE FROM THE RINDERPEST (G. Müller, Breslau).—An clecuary of tar, carbolic acid, charcoal, common salt, some umbelliferous seed, gentian, calamus, &c. 1 kilo., 18s.—*Hager*.

RINDVIEHPULVER—BLACK CATTLE POWDER—from the Eagle Pharmacy, Emmerich-a.-Rhein).—Glauber's salt in crystals, 66·34; anhydrous sodium carbonate, 13·13 (used in the form of superficially effloresced washing soda); water, 14·63; sand and silica, 3·9; angelica root, 2. 250 g., 5d.—*Dr. U. Krcusler*.

ROOB BOYVEAU L'AFECTEUR corresponds to the compound syrup of sarsaparilla, or a slightly turbid syrup of sarsaparilla, 200; senna, 10; aniseed, 5; cinnamon, 5; elder syrup, 10; sugar, 400; and water sufficient.—*Reveil*.

ROSENBALSAM; POITRINAGE DE ROSE (Joh. Wilhelm Becker, Fredeburg, Westphalia).—A kind of universal salve for all diseases. Olive oil, 40; hogs' lard, unsalted butter, tallow, wax, and litharge, of each, 20; heated together till they turn brown, when black pitch 5 is added. 30 g., 9d.—*Hager*.

SACHET A L'HELIOTROPE (Piesse).—A coarse powder of orris root, 200; rose leaves, 100; tonquin bean, 50; vanilla, 25; musk, 1; bitter almond oil, 1.

SAGHALIN—GLYCERINE SOAP POWDER—JAPANESE WASHING POWDER (Heinsius & Co., Stuttgart).—Soap, 12; calcined soda, 66; sodium silicate, 15; ultramarine, a little. 125 g., 3d.—*Hager*.

BARNLEY'S SALBE-SALVE—PFERDEHUF-SALBE—HORSES' HOOF SALVE, for greasing horses' hoofs to prevent cracking (Emil Karig, Berlin).—A tin box holding 110 g. of a salve composed of elemi, 2; tallow, 1; rape oil, 1. 1s. 6d.—*Schüdler*.

SALBE GEGEN FALLSUCHT—OINTMENT FOR EPILEPSY (sold by Frau F. Dozlay, Szegedin, Pesth).—Sugar, 32; infused oil of henbane, 68, perfumed with a little neroli.—*Molnar*.

SALBE GEGEN DEN SPATH DER PFERDE—SPAVIN OINTMENT (Veterinary Erast, Halle).—Corrosive sublimate, 5 g.; bone black, 2 g.; potassium iodide, 6 g., rubbed with a little water and made into an ointment with 7·5 g. cantharides ointment. 3s.—*Hager*. According to *Merck*, mercuric iodide, 6 g.; cantharides ointment, 6 g.; hogs' lard, 4 g.

HOLLOWAY'S OINTMENT.—Cera flava, 10; cera alba, 10; resina, 25; adeps sus, 50; ol. olivæ, 75. According to *Dorvault*, it is a mixture of cera alba, 125; cera flava, 30; terebinthina, 30; resina alba, 250; cetaceum, 30; adeps, 500; ol. olivæ, 625.

UPHOLSTERER MÜLLER'S OINTMENT (Berlin).—Recommended for all hurts and pains, small and great, and specially for hemorrhoids. 6·5 g. of a brownish-yellow ointment in a rough earthen pot. It is a mixture made, by the aid of a gentle heat, of olive oil, 3 g.; wax, 1·5 g.; colophony, 1 g.; tallow, 1 g.; rosemary oil, 5 drops; thyme oil, 2 drops. 9d.—*Hager*.

JOHANN TREITLER, THE HERMIT'S, OINTMENT—HERMITS OINTMENT; EINSIEDLERSALBE. —Camphoraceous Nuremberg plaster, 3 p.; olive oil or unsalted butter, 1 p.; tar, 3 p.—*Hager*.

MISCELLANEOUS FORMULÆ.

QUILLAIA TOOTHWASH.—An excellent toothwash containing glycerin is made as follows:—

Soap bark, ground	..	..	..	..	..	4 oz.
Glycerin	..	..	..	..	..	3 oz.
Diluted alcohol, sufficient for	..	..	..	..	..	2 pints
Oil of gaultheria	..	..	..	..	..	20 drops
Oil of peppermint	..	..	..	..	..	20 drops

Macerate the scap-bark in the mixture of glycerin and diluted alcohol for three or four days, and filter through a little magnesia previously triturated with the volatile oil.

Thus made, a much better preparation is obtained than by macerating the bark in the dilute alcohol and adding the glycerin afterward.—Alexander E. Bennett, Ph.G., *American Journal of Pharmacy*.

SOOTHING OINTMENT.—Dr. McCall Anderson, in the *Specialist*, gives the following formula as the most soothing and sedative ointment for inflamed surfaces that he has become acquainted with:—

	Parts
Bismuthi oxidi	.. .. . 25·00
Acidi oleici	.. .. . 200·00
Cerae albae	.. .. . 75·00
Vasellini	.. .. . 225·00
Olei rosæ	.. .. . 0·25

TO RENDER STEEL PENS INOXIDISABLE.—Place them for half-an-hour in a solution of sulphate of copper. Afterwards let them dry slowly.—*Moniteur des Produits Chimiques*.

ARTIFICIAL SLATE.—A German patent has been granted to a M. Rosenbach for the above. He dissolves 3 kilos. of sandrac and 3 kilos. of shellac in 40 litres of 90 per cent. alcohol, adds thereto 6 kilos. of diamond emery, 1½ kilo. lamp black, and ¼ kilo. ultramarine. A mass is formed which is painted on paper, wood, tin, or leather, and warmed, leaving a waterproof surface capable of being written upon.

EDISON'S POLYFORM.—A correspondent of the *Druggists' Circular* gives the following as the correct formula for Edison's polyform:—

Hydrate of chloral	..	..	..	..	..	1 oz.
Alcohol	..	..	..	..	..	4 oz.
Chloroform	..	..	..	..	..	2 oz.
Camphor	..	..	..	..	..	2 oz.
Oil of peppermint	..	..	..	..	..	2 minims
Oil of cloves	..	..	..	..	..	2 minims
Salicylic acid	..	..	..	..	..	72 grains
Nitrate of amyl	..	..	..	..	..	72 grains
Morphia	..	..	..	..	..	48 grains

Mix. For external use.

The editor drily remarks that the formula only needs a little of the celebrated *phosphate of pumpkin seeds* to make it perfect.

CHARCOAL TOOTH POWDER.—

Charcoal	..	..	..	..	..	3 oz.
Calamus root	..	..	..	..	..	5 drachms
Pumice-stone	..	..	..	..	..	2½ drachms
Catechu	..	..	..	..	..	2½ drachms
Oil bergamot	..	..	..	..	..	30 drops
Oil cloves	..	..	..	..	..	30 drops

PUZZLED.—An elderly lady, who was handling a set of false teeth in a dentist's office, asked, "Can a body eat with these things?" "My dear madam," replied the consultant, "mastication can be performed with a facility almost equal to nature itself." "Yes, I know all that," answered the old lady, "but can a body eat with them?"—*Dental Jaiurs*.

CANDIDATES UNDER EXAMINATION.—CHEMISTRY.

FOLLOWING up the paper on "Botany," which appeared in last month's issue, and following up also Mr. Ince's admirable paper on "Home Chemistry," in the same number, we may be permitted to make a few cursory remarks on chemistry, relative to certain weaknesses which most students, and particularly such as are self-taught or imperfectly taught, exhibit when crucially tested by practical work in the laboratory or the examination room. The hints thrown out ought to be acceptable to students, seeing that in the syllabus of the chemistry examination, as in that of the botany already referred to, there is a beautiful yet comprehensive vagueness which allows the imagination of the examiner as well as that of the student to revel very much at their own sweet will. If a candidate were to be examined on the dibromide of ethenehexethylidiphosphonium, or some such similar compound, no great surprise need be expressed. It may, of course, be fairly argued that this is not an "ordinary chemical," nor a "chemical in ordinary use." But this is a matter both of use and wont as well as of opinion. The examiner may be using every day what the candidate never saw, probably with no fault of his own, never had an opportunity of seeing all his life. True, there are many excellent "companions" and text-books, from which he may receive at least a theoretical knowledge of every subject on which he is likely to be examined, not to speak of many on which he is not in the least likely to be examined. But so far as these examinations are concerned, the theoretical apart from the practical is probably one of the most fatal errors of students. Nothing in the world—cramming, lecturing, reading included—will make up for the want of experimental work. A chemical may be said to resemble very much the individual, inasmuch as each are different when viewed at a distance or in a book from what they are when closely examined or read in everyday life. They have each their proclivities and peculiarities, which only the contact with and handling can discover, and the very way in which a student does this will at once disclose the fact as to whether or not he has been accustomed to such practical work. Probably, however, the mistake made nowadays is not neglect of this practical work so much as neglect of applying it in certain directions. It is no uncommon thing, for example, to meet with students well up in the "group tests" who yet cannot effect the solution of a metal, or who, if they succeed in getting a solution, cannot proceed to test it, from the fact of its being presented to them in a different condition to that in which they have been accustomed to see or use it. It is the most common thing possible to find a student able to give the test for a simple salt in solution, but give him the same or a similar salt in an insoluble form, and he receives his *coup de grace*. Or take another direction. Take, say, the department of processes. Nearly every student will give the correct process for producing sulphate of iron to a letter, but ask them to give the *rationale* for the granulated preparation, and probably not one in ten will be able to do so. In like manner the majority would give the process quite correctly for making the green iodide of mercury, and probably also explain why 278 grains of iodine are required for the ounce of mercury, but they would stumble completely over the action of the spirit. We are almost tempted to stop short at the department of impurities, for into this domain the student apparently thinks he has no right to enter, and even feels aggrieved if it is mentioned. We would, however, point out that the detection of an impurity or adulteration is simply the detection of one chemical in the presence of another, and it is one of the great applications and, from a pharmaceutical point of view, one of the most important of all chemical knowledge. We might multiply instances, but these, we think, will suffice both as an excuse for this paper and as indicating, without more particular reference or explanation, why certain lines of study are pointed out. There is nothing new stated, so far as the chemistry is concerned, nothing, in short, which may not be got in any good text-book; but every point indicated and suggestion given the pharmaceutical student may depend upon as being important, and attention to them will,

therefore, best enable him to conserve both his time and energies in fitting himself for his examination.

First Bases.—(a) *Metals, Oxides, Sulphides, &c.*—Examine and practically test every metal (in its pure state), oxide and sulphide, from which Pharmacopœia compounds are derived; make the derivatives, where practicable, calculating from combining proportions and comparing with Pharmacopœia proportions. Observe the behaviour of the solutions under different reagents in these operations so as to distinguish unknown substances.

(b) *Simple Salts.*—Apply group tests and be able to detect, from reactions, unknown substances, and particularly be able to effect solution of and test insoluble salts. It not unfrequently happens that a salt, or an oxide, or even a metal may be given to a student which he does not know, but which from its physical characters he may guess at. In such circumstances a knowledge (and it is generally this knowledge which is wanting) of their department with some of the more common reagents is of the greatest importance. This paper is not intended to be of an educational character, else we might have entered into the subject more fully here, but we cannot help suggesting to the student the compiling of and constant reference afterwards to a chart such as the following:—

Metals precipitated by dihydric sulphide from—

Acid Solutions	Alkaline Solutions
Ag, As, Au, Bi, Cd, Cu	Co, Fe, Mn, Ni, Zn
Hg, Pb, Pt, Sb, Sn	Al, Cr

Of the above, the following are soluble in—

Nitric Acid	Ammonium Sulphydrate	Nitro-hydrochloric Acid
Ag, Bi, Cd, Cu	As, Au, Sb	Co, Hg, Ni
Fe, Mn, Pb, Zn	Sn, Pt	

The following are precipitated by—

Hydrochloric Acid	Sulphuric Acid	Ammonium Hydrate
Ag, Pb, Hg ₂ O	Ba, Ca, Hg ₂ O, Sb ₂ O ₃ , SnO ₂ , Pb	Al, Co, Cr, Fe
		Ni, Mn, Zn
Water		Ammonium Carbonate
Bi, Cu ₂ O, Hg ₂ O		Ba, Ca, Sr
SnO ₂ , Sb ₂ O ₃		

The following are soluble in—

Ammonium Hydrate	Potassium Hydrate
Ag, Cd, Ca, Co	Al, Cr, Pb, Sb ₂ O ₃
Ni, Zn	SnO ₂ , Zn

Re-precipitated on heating—

Cr, Zn

If such a chart as the foregoing were more frequently consulted, there would be less dubiety and hesitation over the appearance or disappearance of precipitates.

2. Acids.—(a) *Acids Requiring Neutralisation, &c.*—Practically determine the substance most suitable to effect neutralisation of the acid, e.g., if ammonium hydrate be used learn those substances which are precipitated by it; also, where it is necessary to remove from the solutions all metals except of the alkalies, and, lastly, where from the nature of the substance it is necessary to substitute one acid with its corresponding salt for another acid with its salt.

(b) *Acids from Neutral Soluble Salts.*—The student may here follow any of the text-books in ordinary use, or he may follow with great advantage the plan advised in the examination of bases, and draw out for himself a chart of the reaction of some of the more common reagents used in testing for acids. In addition to this, however, he should never forget (it is generally forgotten) that a preliminary examination may at once detect the group to which the substance may or may not belong, e.g., soluble salts containing barium, lead, strontium, and mercurous salt exclude the presence of sulphuric acid; soluble salts containing lead, silver, and mercurous exclude the presence of hydrochloric acid; and soluble salts containing earthy metallic bases exclude the presence of boric, carbonic, oxalic, and phosphoric acids, &c.

3. Impurities, &c.—(a) Learn those that are peculiar to the substance, the presence of which occasionally causes awkward complications, such as lime or chlorides and sulphates in water, or the presence of nitric acid or arsenic and lead in sulphuric acid, &c.

(b) Learn also those that may more correctly be classed as adulterations, such as tartaric in citric acid or chloride in iodide of potassium, &c.

Very much that seems vague and indefinite in this department would disappear were students to study the Pharmacopœia more than they do. In it they would at once get the probable impurity or adulterant, and the means for their detection; in short, the greatest amount of pharmaceutical chemistry with the least possible trouble. We have often been painfully surprised that students do not recognise this more than they do. Nothing, let them be assured, will so fully repay them as a study of its pages, and nothing will exactly compensate for the neglect of doing so.

It may not be considered out of place to conclude with one or two hints which may prove useful to the student in his practical work. In the first place we would advise him never to pass over some unexpected reaction without getting a full and definite explanation of its cause. A dirty test-tube is prolific of such phenomena, and will sometimes cause more trouble than a complete analysis. When referring to test-tubes we may be excused pointing out one very objectionable practice common to nearly every student, namely, that of closing the mouth of the tube with the ball of the thumb previous to shaking it. The practice probably is convenient, but it is very objectionable and very dirty, and will eventually end in trouble to the student. This hint may be also advantageously carried to the counter in the shaking of phials. Again, there should be no foregone conclusion arrived at in preliminary examinations as to what any unknown substance really is before it is practically tested. An assumption may be made, and the student would often lose time did he not make such a guess, but to dogmatically conclude on the matter will eventually lead him astray. It is truly wonderful with what facility under such circumstances he will get evidences to support his conclusions; the peculiar crackling sound of an acid in dissolving some oxide will confirm his conviction that he is dealing with a carbonate; the air-bubbles in his test-tube, after briskly shaking it, will convince him that he has got a precipitate, and so on. Lastly, let him do all his operations and calculations as much on scientific principles as possible, and thus he will learn that he need not attempt the impossible feat of boiling an egg at 20° C., or weighing the pressure of the atmosphere with a hydrometer.

TRIVIAL GERMAN NAMES OF DRUGS.

W. H. VORMANN has published in the *Schweizerische Wochenschrift für Pharmacie* an interesting and amusing paper on this subject. Many of the names are corruptions of the Latin, others result from more or less accurate observations. The *Electuarium theriacale* of the German Pharmacopœia, the modern descendant of the Theriaca invented by Nero's physician, is still highly prized by the people. It is called Theriac in German. Through false pronunciation this becomes *Therjæc*, and from this to the very original and much-used *Therjackete* (tar-jacket) is but a short step. Derived directly from the Latin name is the Plattdeutsch "Dit und Dat," while the name *Mirakel* indicates the great virtues formerly and still ascribed to the remedy. The diminutive suffix *el* makes "Theriakel," which becomes "Thriakel" and "Triachel." We may note that the Latin diminutive *Triaculum* was current in the Middle Ages, and that our English word Treacle comes from the Latin Theriaca by quite parallel steps. Not to be confused with "Triachel" is the so-called "Driachel or Diachelpflaster," *Emplastrum diachylon simplex*, or simple lead-plaster. This has absolutely no conceivable connection with Theriaca, but the name is formed from the word Diachylon. The adjective "simplex" appears in the form "Diachelsimpel," and the plaster is also called "Diakonuspflaster."

A much-used popular tea consists of sarsaparilla root and the wood of sassafras root. The names of both drugs have lighted on many misfortunes. "Sarsaparillwurzel" (root) is reduced to "Aprilwurzel," sassafras to "Sachsenfrass" or "Sass und Frass" (Sachsen = Saxony; und = and). The combination, "Lignum sassafras et radix sarsaparilla," thus interprets itself to the Mecklenburgers:—"Er sass und frass und kikt durch 'ne Brille" ("he sat and gorged and peeped through his spectacles").

Oxyrocoem is a fearful jaw-breaker for the common

people. It appears as Oxycrucius, Ochsenkrucius, Ochsenkruzen, or, indeed, Ochsenkrut- (kraut, i.e., Oxherb) pflaster, which again becomes Ochsenkreditpflaster. Unguentum finds substitutes in six German words: Umgewendet or umgewandt (i.e., turned about), angewandeter or angewandt (employed), Entwendung (a theft) and Umwandt. *Unguentum neapolitanum*—mercurial ointment—becomes "Ungewendeten Napoleon." Arquebusade, a well-known mouth-wash, becomes Akebosade, Alte Pussade, and, finally, Alte Pussage. Fœnum græcum becomes Feine Grete (compare Gretchen), then Faule (dirty) Grete, and then Feine Marie. From Baldrian (valerian) is formed Balderjahn, Ballerjahn, Balsterjahn, Bullerjahn, &c.: from Curcuma, Gurkemehl, and Gurkenmehl (cucumber-flour). Creasote becomes Krähenstot (Krähen=crows); Zingiber, "Zin und Zer"; species lignorum, "Spitzen Leonore." Red precipitate ointment becomes "Prinzipitat, Prinzeputat, Prinzipal, and Prinz Salbe. These are all obvious corruptions of the Latin. But there are some remarkable names which are not so easily explained. Thus, lead-plaster is called "Cujonen- und Comitrapeterpflaster"; insect-powder is Kugelmuspulver und Krokodillensaatz (crocodile seed); Nimmernuchtern ("never sober") is lead ointment; Alwise Kathrine is aloes. Asafœtida tincture is called Stiefelknechtropfen ("boot-jack drops"); musk is Tritrum-tratum. The last class of names records more or less accurate observations. Arnica tincture is called "Geschwind mach' fix und fertig" ("quickly makes right and ready"), which refers back to the need of using it at once for contusions and wounds; "Hurtig und geschwinde" ("swift and speedy"), and "Todtenwecker" ("wake the dead"), names for ammonia solution, refer to its use in faintness. Sulphuric acid, used for polishing copper-kettles, is called Polir- or Putz-wasser. Potash added to peas and beans that will not boil soft by themselves is called "Zuthat," ingredient. "Good Geruche" (= odour, smell) is Eau de Cologne. "Augenlicht" ("light of the eyes"), and "Göttlicher Stein" (divine stone), are names for zinc sulphate. Many other names cited by the writer are applied more to plants than to drugs, and resemble English names in their general characteristics.

PHILTRES, CHARMS, AND POISONS.

OUR esteemed correspondent, M. Emile Gilbert, of Moulins, France, whose historical sketches of ancient and mediæval medical sorcery we have previously published in brief, has lately prepared a new series of sketches, of which he has sent us early proofs, entitled "Philtres, Charms, Poisons." Without offering anything like a translation of this interesting work, we shall endeavour to reproduce M. Gilbert's researches in a very condensed form.

In ancient times, and even in the middle ages, all the sciences were confounded under the general term of philosophy. Similarly, all acquaintance with the secrets of nature was known to the priests of Thebes and Memphis as the sacred art. The priests had their laboratories in the public temples, and performed experiments before the eyes of the people. The latter were persuaded of the semi-divinity of these professors of the sacred art, who seemed to them gifted with a power to do in little what the Creator performed in greater things.

It is probably to the mysteries of Eleusis that the origin of philtres and charms may be dated. From medicinal herbs, tinctures and infusions were made, which, taken after long fasting, induced visions and hallucinations. Nearly all the plants used for these purposes were poisonous.

From Egypt the knowledge of the art of preparing these decoctions passed to Greece, and thence to Rome. In these lands the history of poisons is so closely associated with the history of crime that it becomes as difficult to fix with precision the discovery of the former as to trace the underground origin of the latter previous to its public development.

Orpheus, the poet-physician, of an era anterior to Homer, is the first known writer to allude to poisons. In his poem, "De Lapidibus," reference is made to vegetable poisons, the scheme of the work being to give an opportunity to Theodomas, son of Priam, King of Troy, to demonstrate

the value of the various precious stones as antidotes. Among those enumerated he does not mention the amethyst, which in those days had the reputation of preserving from intoxication the happy toper who wore it.

Homer seems to allude to philters or enchanted drinks when he speaks of the poison in the cup of Circe, which had the power of changing men into beasts.

The historians of corrupt Greece and degenerate Rome frequently relate episodes in which philters are concerned, proving the pharmaceutical skill of the miracle-workers of that epoch.

In Rome the profession of a sorcerer was a lucrative one. The women who practised it held the secret of preparing beverages capable of yielding ecstatic dreams, and, as they pretended, of forcing those who took them to love, hate, or suffer at the will of the administrator.

In the preparation of these decoctions these wretches did not limit themselves to the use of deadly herbs, but even sacrificed young infants to give their charms more certain power. Horace alludes to these nocturnal sacrifices in his fifth ode, and Cicero defended the Pythagorean philosopher Vatinius against the accusation of having sacrificed young children to the infernal gods, and preparing enchanted and deadly draughts.

Apuleius describes the ceremonies and practices of the sorcerers and diviners at great length. This author was born about the year 114 A.D., about the end of the reign of Trajan. His early years were passed in the schools of Carthage, and afterwards at Alexandria. He travelled through Greece and the East, and made himself familiar with the rites of the various temples where magic was practised. His reputation of an acquaintance with the arts of sorcery, indeed, caused him some trouble in his otherwise brilliant career, for, having married a rich widow named Pudentilla, he had to combat the accusation of her relatives of having seduced her affections by philters and enchantments.

Among his works his marvellous stories indicate his predilection for the feats of magic. Therein he tells of Meroë, a famous sorceress known to the Indians and Ethiopians, to whom "nothing was impossible, for she could at will lower the sky, solidify the sea, liquefy the mountains, and extinguish the stars." By her philters she changed her husband into a beaver; she kept a tavern, and, having trouble with a rival tavern-keeper, she changed him into a frog; while a lawyer who pleaded against her suffered metamorphosis into a ram.

Apuleius also introduces us to the house of the famous sorceress Pamphilia. On the top of her house was a terrace with an uninterrupted view to the east and the west. Spread before her are aromatic plants, such as savory, sage, and myrtle; blades of brass covered with cabalistic characters; fragments of wrecked ships; vessels of milk and mead, and censers in which burned frankincense and vervain.

Pamphilia could change herself into a bird and fly to him whom she loved. This she accomplished by applying a certain pomade to her body. She broke the charm and regained her natural form by eating roses.

Her ointments seem to have had various virtues, however, for a certain Lucius, desiring also to assume the bird form, stole some pomade from the dwelling of the sorceress, and found himself changed into an ass.

These stories show how readily the ancients accepted the wildest fables of magical prodigies. In these days the composition of the usual philters of the Romans is pretty well known, and we have learned how easily, under the influence of certain narcotics, the reason of man can be so overthrown as to easily believe itself possessed of the powers of the heroes of fabulous stories. Administered in strong, though not in fatal doses, certain substances will for a time annihilate the intellectual faculties, or predispose them to a sentiment of the impossible and the supernatural. In Rome, about the time of Nero, the passion for philters was pushed to its extreme limits, and often, according to Piny, death was the penalty of indulgence in the wild excitement. The people only sought to encourage their criminal passions, and they little recked of the ravages which these poisonous beverages wrought on their individual and national organism.

The wealthy classes could buy flatterers and intriguers of every kind. Nearly every senator had his private astrologer,

who predicted for his patron the empire of the world. Thessalian sorceresses and Chaldean magi, quacks, jugglers, serpent-charmers, and Eastern dancing-girls, elbowed each other in all the public places. These corruptions were introduced chiefly by Greeks, who insinuated themselves into almost every great household, and imposed their fashions, their language, and their vices on women, children, slaves, and, ultimately, on nearly all the higher classes. The sons of Romulus became the imitators of the Athenian idlers.

In this atmosphere of corruption, debauchery, and gambling, no wonder the diviner and the poisoner flourished: the one to predict the death of a rich parent or creditor, the other to fulfil more promptly the prediction.

At that time L ocusta established her famous laboratory of poisons on the Palatine, and there she made her experiments on the vile bodies of poor slaves with some new drug destined to render prematurely immortal some Claudius or Britannicus. Now and again some practitioner of the magic art was ostentatiously banished, but most of them flourished, and their numbers were continually augmented by new arrivals from Thessaly, Pontus, and Arabia. Their art, always accompanied by fantastic practices, by visions and prodigies, mainly consisted of two branches: the preparation of remedies and the compounding of love-philters.

Among the pretended remedies, to quote only two from a thousand, may be mentioned the ointment of Columbus, so called because it was applied, as Suetonius tells us, by the order of Caligula, to the wounds of the gladiator Columbus, and caused his death, because the Emperor who prided himself on his manipulation of the sword, had been foiled by this impolitic fencer; and the deadly gargle which Nero caused to be given to his tutor, Burrhus, when the latter, com plaisant enough for a long time, was beginning to weary of the crimes of his terrible pupil. But Nero himself required some means of shielding himself from the bitter remorse which sometimes his murders awakened. In his sumptuous Golden Palace, therefore, he concealed talismans to protect him against all danger. His bed and the cornice of the Imperial alcove, therefore, were encrusted with precious stones of magical virtues. Among these were the cornu ammonis, a golden-coloured stone which procured prophetic dreams; the jasper, which cultivated eloquence; the amethyst, which protected from injuries during intoxication; and the sacred agate from Crete, which guarded against the bites of spiders and serpents. Ardently he sought to learn more of the mysteries of Oriental magic, and to this end he loaded with gifts and received with great pomp Tiridates, King of Parthia, and the magi who accompanied him. These men claimed the power of foretelling the future and talking with the dead, and for these purposes they employed myrrh, frankincense, and bay, in their enchantments. They failed, however, to teach their arts to Nero, and accounted for their want of success by the excuse that nature refused to give up her secrets to anyone whose skin was stained with freckles.

After the murder of Agrippina, Nero sought to stifle his remorse by the employment of philters, and by recourse to other superstitious practices recommended to him by the curions. Then he heard of Simon the Magician, who had lately come to Rome. This strange person, who to some gave himself out to be Jupiter, and to others described himself as one of the Eons of the Alexandrian philosophers, was accompanied by a woman named Helen. He could make fire burn on water, and could, by means of stupefying compounds, procure visions and hallucinations to those who would submit to his orders. His coadjutrix, herself under the influence of philters, played the role of Sibyl. The emperor resolved to see him, and received him at the palace into great favour. To please his powerful patron the impostor undertook to confound the Christians, whom Nero hated, by the display of greater miracles than they could boast of. He declared his ability to fly through the air, and Nero, childishly fond of witnessing anything extraordinary, made a great opportunity for the display of this power. The spectacle was to be held at the Circus, and there, says Suetonius, this new Icarus rose into the air. But his triumph was short. In a few moments he fell and broke his leg at the feet of the Emperor. Nero was disgusted with his magician, and Simon, sick with disappointment, soon after threw himself from the top of his house and killed himself.

Neither the diviners nor the philosophers could satisfy the tyrant; the sorcerers could not tell him what he wished to know, and the philosophers would tell him only what he desired to forget. They and the Christians were engulfed in the same persecution. But in the laboratories of the philtermongers he found often what he wanted, and there is reason to believe that many an illustrious Roman perished from the effects, slow or rapid, of the philters of Locusta.

What were the substances employed in the composition of these philters? It is difficult to say with precision, but there is little doubt that arsenic and aconite were their principal elements. At that period the working of the arsenic mines was largely developed, and clearly the commerce in the metal was in a prosperous condition; while the law of Trajan prescribing the penalty of death for the cultivation of aconite throughout the empire is an evident proof that the properties of this plant were but too well known.

NOTES FROM GREECE.

[BY DR. XAVIER LANDERER.]

THE WATER OF ATHENS.

ATHENS, the most beautiful city in the East, was only a village forty years ago. Its splendid marble buildings surpass those of every new European town. With the increase of the population from under 30,000 to 800,000 a scarcity of water occurred. Through the discovery of hidden springs, which have mostly been tapped in recent years, Athens, especially in winter, is now rich in water. The drinking water is soft, that is to say, well suited for all domestic and industrial purposes by the small proportion of magnesium and calcium salts it contains; but it holds in mechanical suspension a trace of solid matter which makes it turbid, and gives it an after-taste of clay, called by the Greeks *chomaitila*. Many families use a small filtering apparatus imported from Britain. I would call the attention of Englishmen to the possibility of obtaining from the State or municipal authorities (*demarchia*) privileges or monopolies for the establishment of large water-works and filtering apparatus for purifying the water of Athens and other Greek towns, such as Patras and Syra.

ON THE PREPARATION OF CITRIC ACID AND THE ESSENTIAL OIL OF LEMONS.

MILLIONS of lemon trees are growing in the islands of the Grecian Archipelago, on Chios, and in the Peloponnesus, while lemon groves extend far and wide on the island of Paros. Some years ago the disease which destroyed so many thousands of these beautiful trees in Sicily appeared in Paros, and hundreds of labourers lost their occupation. Soon after this misfortune, Sicilians came to Greece and introduced in Paros their native methods of extracting the essential oil of lemons, by the sponge and *écuelle* processes. They also prepared the lemon-juice by evaporating it to a syrup, and the product, called *succo agro*, was exported to Italy. From carelessness and ignorance on the part of the workmen, the juice was in great part decomposed and rendered useless by over-heating. Two years ago very unusual cold was experienced during three or four days in Paros, the thermometer sinking for some hours to 5-6° R., while snow fell and ice was formed. Hundreds of thousands of the trees seemed to be frozen; and, indeed, some were "cut back" to a bare trunk. Nevertheless, under the rich sunny sky of this nature-favoured land, in May and June the lemon and bitter orange trees, which seemed killed to the ground, clothed themselves with leaves, and later produced some, though very few, flowers. In the second year flowers and fruit were produced in abundance.

ON THE NEGLECT OF VINEGAR-MAKING.

It is noteworthy that every year in Greece hundreds of thousands of gallons of wine turn partly sour, and are thrown away because there are no vinegar works to convert it into good vinegar. The people try to set up the acetous

fermentation by quenching red-hot tiles in the wine, or by setting it in the sun, but they are generally unsuccessful, so it remains neither drinkable wine nor good vinegar. The erection of a vinegar works with proper apparatus would be of the highest importance for Greece and the Levant. Good vinegar imported from France is dearer than good wine. Countrymen bring vinegar from the villages and hawk it through the streets, crying, "Buy Chidi kalon!"—good strong vinegar; and to induce customers to buy the vinegar they demonstrate its strength. This Oriental process of acetometry consists in pouring some of the vinegar on the ground; and pointing to the effervescence of the calcareous soil, the peddlers say that it is so strong that it dissolves the stones.

BEER IN GREECE.

A GERMAN who settled in Nauplia in 1830, and sold beer to foreigners (to French and English, who are convinced that beer is a good article of food), was called Farmakephs, poisoner, and his beverage was called "Farmaki," or poison, on account of its bitterness. All bitter things, including drugs, are called *Farmakia*, or poisons, by Eastern peoples.

Now beer-drinking is naturalised in the East, many hundred thousand Greeks are beer-drinkers, and more would be, if the price of beer were nearer that of the Retsinat wine—which, indeed, in its bitterness somewhat resembles beer, and is preferred as a beverage by all Germans to all other wines. The commonest tooth-rasping, half-fermented beer, costs 80 lepta, while the best Retsinat, the Homeric *retinilis oinos*, costs only 50 to 60 lepta. Good beer, imported from Bohemia, Trieste, Vienna, and Munich, costs 2 to 2½ drachmas (200 to 250 lepta) a bottle. Hundreds of thousands of bottles of English beer are imported and sold at 3 to 4 francs each.

All the malt and hops required for the Greek breweries are imported from Austria, costing annually 200,000f.; the quantity required for the breweries of Greece and the Levant costs 2,000,000f. A malt-house has been built in the Piræus, and the Athenian brewers produce from the home-made malt an excellent beer.

A SHORT NOTE ON THE JERICHO ROSE.

ALL travellers on the way to Bethlehem to visit the birth-place of our Saviour are given, or buy, the so-called Jericho rose, as a prophetic flower or charm to secure a lucky journey. Women buy it to get a happy delivery, and to secure good fortune generally. The plant, the *Anastatica Hierochuntia* of botanists, is an annual, and is called by the curiosity dealers Jericho Rose, or Mary's Flower. On drying, it contracts to a ball, but when left in a damp place, or dipped in water, especially if this is warm, it expands as if it were reviving; on drying, it contracts again. This phenomenon seems a miracle to the unlearned Arabs, and has surrounded the plant with a mass of superstitions.

[The old legends say that this desert plant, when the soil dries up, loosens its root, rolls up its branches, and gives itself to the winds, till it is blown to a moister spot, when it immediately expands and strikes root again, recommencing its travels when necessary. In former times, at the commencement of their labour pains, women would dip the dried plant in water, believing that at the moment it was fully expanded they would be happily delivered.]

THE CULTIVATION OF JALAP.—The *Gazette* contains a letter from the Superintendent, Government Botanical Gardens, to the Acting Commissioner of Nilgiris, on the cultivation of jalap. The Madras Government remarks that "the cultivation of this plant, which is evidently easily grown, is likely to be profitable, and as no special management is required, it is unnecessary and undesirable to have an extensive area under it in connection with the Government Gardens. Private individuals should be encouraged to undertake the enterprise, and the Commissioner will arrange for the gratuitous supply of tubers sufficient for one-eighth or one-sixteenth of an acre to persons willing to attempt it. The cultivation of jalap might, with advantage, be experimentally tried at the Lawrence Asylum, and the matter will be brought to the notice of the Committee of Management through the Educational Department."—*Madras Mail*.

POISONING CASES.

On January 21 an inquest was held at Brigg on the body of Mary Ward, wife of a labourer. She took opium and chloral habitually. On January 19 she was supplied with two drachms of chloral and three pennyworth of opium, and next day with half an ounce of opium and four drachms of chloral, by Walter Eaton, apprentice to Mr. George Gibson, chemist. On this day she fell down in the street and died almost immediately. The opium was found upon her, and all the chloral, except about 40 grains, which, with the opium and chloral purchased on the previous day, would be sufficient to cause death. The jury found a verdict that the cause of death was heart disease, accelerated by an overdose of chloral, and also added to their verdict that greater restrictions should be placed on the sale of poisonous drugs, the habitual taking of which had become so prevalent amongst all classes, and was injurious to health and dangerous to life. The Coroner promised to communicate the verdict to the Home Secretary.

At Oldham, John Smalley, aged 40, took by mistake an overdose of laudanum. The doctor used the stomach pump and ordered that he should be kept awake. Accordingly two men walked him up and down the room, whilst a third kept beating him with a rod. Smalley walked for some time, but his legs ultimately became powerless, and thereupon they kept rolling him on a table to keep him awake. They rolled him about on the table until all his clothes were nearly off, and the body was bruised and discoloured, evidently through the "treatment" he received. He died at seven o'clock in the morning. At the inquest on January 10 the jury returned a verdict to the effect "that deceased had taken an overdose of laudanum through mistake."

In several districts horses and cattle have been poisoned by yew during the month of January. In each case the animals broke out of their pastures into adjoining shrubberies and eropped the yew trees. At Gaddesby, Leicestershire, Mr. Wm. Matts lost six beasts, worth 25*l.* each, and others were injured. At Garphar, Ballantrae, 28 young cattle were poisoned; but fresh milk and other remedies were administered, and all but one recovered. Mr. R. Taylor, of the Scotchman's Pack, Sheffield, lost two young horses valued at 50*l.*

At Sheffield, on January 11, an inquest was held on the body of Betsy Tacey, aged 17, who had died from an overdose of laudanum. A letter was found in her box in which she said that she could not be a trouble to her friends, and was innocent. No explanation was given of the last expression.

At Hull, on January 6, an inquiry was held into the cause of death of Thos. Parker. Herbert Street, assistant to Mr. Pickering, chemist, Lowgate, said deceased purchased three pennyworth of laudanum as an external and internal anodyne for rupture. He said he was accustomed to take laudanum, and intended to take a quarter of the three pennyworth as a dose. Deceased was found insensible in the evening, and died, in spite of treatment, before midnight. Verdict, "Death from an overdose of laudanum, taken by mistake."

On January 11, at Tollingham, near Market Weighton, a child named John Wm. Brown, aged 17 months, died from the effects of poison. It had been playing with some old bottles, and drank some belladonna and glycerine liniment, which one of them had contained. Verdict, "Accidental death."

On January 17, Joseph Watson, black and white smith, Preston, aged 54, drank some spirits of salts thinking it was water. Apparently no doctor was called in, but the patient went to bed and died next morning. Verdict, "Death by Misadventure."

At Dundee on January 20, Mrs. Brown gave her son Thomas, aged one year and nine months, a bottle to play with, which she thought was empty, but which contained a little sulphuric acid. The child drank this, and after lingering in great agony died.

On January 16, at Trowbridge, Agnes Hunt, a domestic servant, who had had domestic troubles and suffered from neuralgia, swallowed most of the contents of a bottle of

furniture cream. She forgot to shake the bottle, so that what she took was chiefly linseed oil. She soon recovered under the care of Mr. Kirwin Sylvester.

At Birmingham, on January 27, an inquest was held on the body of George Darwen, aged 21. Dr. Darwen said that on Monday evening his son returned home intoxicated. He remonstrated with him, and the young man went to the surgery. Witness heard a fall, and on going in found the deceased prostrate, and detected the odour of prussic acid. He endeavoured to use the stomach-pump, but the struggles of the deceased prevented him. Mr. Yates, surgeon, was called in, and artificial respiration was resorted to without avail. Mr. Yates considered that deceased, intending to take a dose of prussic acid to sober himself, had taken an overdose by mistake. The coroner considered it more likely that drink, and the reproaches of his father, had thrown deceased's mind off its balance. Verdict, "Suicide while in a state of temporary insanity produced by drink."

On January 14, Mr. John Brown, chemist, Ripon, was discovered insensible in his warehouse. A bottle half full of prussic acid was found near him, and it was evident he had taken a large dose. Mr. Chitty was called in, but his efforts to restore him were unavailing. Deceased was a widower 63 years of age, highly respected in the city, and had been a great sufferer for a long time.

Some time between Saturday, January 29, and Monday, January 31, the window of Mr. Robert Gibson, manufacturer of medicated lozenges, Erskine Street, Hulme, Manchester, was broken, and a bottle of morphia lozenges, which had been specially prepared for shipment to China, had been carried away. On Sunday, January 30, a little boy of three, the son of Hugh Curwen, of Chester Road, Moss Lane, died after eating, as was believed, some poisonous lozenges, a bottle containing which was found in the house. The doctor had not the slightest doubt that death was attributable to morphia poisoning. The jury found in accordance with this opinion, but also added a recommendation that Mr. Gibson should better protect his window.

On February 9 Mr. James Burgess, chemist, of Chasetown, near Lichfield, committed suicide by taking prussic acid. Deceased was much liked in the town, but for some time past had given way to drink. A few days before he had attempted to poison himself by an arsenical vermin-killer, but the treatment of Dr. Horton prevented a fatal result.

A *pharmacie* was prosecuted recently in Paris for having caused the death of a girl by selling powdered oxalic acid in place of powdered Rochelle salt. He, in defence, stated that he sold what his wholesale druggist had furnished him with, and upon whom, therefore, the responsibility ought to rest, seeing that the substances in powder are not distinguishable by the eye or the touch. The Court, however, disallowed this plea, on the ground that every *pharmacie*, by virtue of the monopoly he enjoys, is strictly held to the duty of verifying every medicine which he offers for sale. He was condemned to a month's imprisonment, a fine of 1,000*fr.*, and 2,000*fr.* damages, payable to the father of the deceased girl.

Foreign and Colonial.

MOORISH CURE FOR HEADACHE.—Mr. Robert Spence Watson, in his recent book, "A Visit to Wazan, the Sacred City of Morocco," tells us that orange-flower water poured over the head and neck is used there as a cure for racking headache.

GERMAN PETROLEUM.—The German Company which was formed to exploit the great petroleum fields near Hanover is discouraged. They engaged petroleum engineers from Pennsylvania, and a test well was bored to the depth of 1,924 feet, working more than 1,000 feet through a bed of slate, but came upon no oil nor oil sand.

OPIMUM GOSSIP IN BOSTON.—There is no new phase in the opium situation. One of the syndicate informs us that the body is as strong as ever. With 2,000 cases for 1880, against 4,400 cases for 1879, they see no chance for weakness. "We could buy up the whole crop if we chose," remarked that gentleman, "and we may do it yet." If the

price should touch \$5 we think there would be a move of this kind, and as the stock held outside the syndicate is only about 1,500 cases, it could easily be done. If the crop of 1881 should suffer from any cause, the "bulls" would have the market in their own hands for the next two years.—*Boston Com. Bulletin*.

HOMŒOPATHY ABROAD.—Dr. Love, President of the French Homœopathic Society, has received the Legion of Honour, a triumph for homœopathy which has created no little irritation in the opposite camp. Dr. Love is of British extraction, thus adding to the list of contemporary celebrities for whom France is indebted to England.—According to the *Paris National*, the journals of Lerida (Spain) announce that the curé of Sendomi has declared from the pulpit that any sick person belonging to his parish who tried to cure himself by homœopathy would, in case of death, be refused the rites of the Church.—Over 6,000 homœopathic physicians are registered in the United States. Of this number nearly 1,000 practise in the State of New York; between 600 and 700 in all New England; Boston has less than 100; Baltimore less than 50.

Medical Gleanings.

VIPER BITES.—"W. F." writes thus to *Land and Water*:—"The workmen employed in the woods in Kent keep the fat of the viper in readiness, in case a man is bitten when cutting the wood or banking up for charcoal burning. This fat is rubbed in the part of the hand that is bitten, and it is stated to be a certain antidote. Three stalwart brothers, living at Mereworth a few years since, and perhaps are there still, had a little dog that would catch hold of a viper by the tail and shake it till life was destroyed. These men dealt in wood, and also worked in the covers while harvesting the same. A noble Newfoundland dog belonging to the then tenant of the Frobury Farm, Kingsclere, Hants, was killed some years since from the bite of a viper that came out of Fro Park, close by." "F. G.," in the next issue, wrote that he had no doubt that had vipers' fat been applied the dog's life might have been saved. He had just read of a dog having been bitten in the nose; it was immediately applied, and the creature was found quite well the following day. When this is not timely applied, and the virus has insinuated into the blood, the "sal viper" is excellent, given and repeated till sweats be produced; this has been known to recover a dog after the virus had induced an universal icterus. The fat of the "viper" consists of clammy, viscid, penetrating, and active parts, which sheathe the salts of the virus.

DRUGS BY CONTRACT.—An Irish workhouse dispensary doctor gives specimens, in the *Medical Press*, of the prices at which medicines are contracted to be supplied to his union. The second column of prices represent the ordinary wholesale prices of the same drugs. What the patients get may be imagined.

Contract Price. Market Value.

	s. d.	s. d.
Acid. sulph. aromat. ..	1 6	3 6
Spts. æther ol. (Hoffman) ..	0 10	4 0
Spts. æther uit. ..	1 0	3 2
Spts. ammon. aromat. ..	1 0	3 0
Tinc. cinch. co. ..	1 10	3 4
Pil. colocynth. co.	3 0	13 0
Ferri et quiniæ citrat. ..	10 0	40 0
Tinc. lobeliæ ætherea ..	1 10	6 6
Tinc. opii ..	2 6	4 6
Tinc. gualaci ammon. ..	1 9	3 6

STATISTICS OF MEDICAL JOURNALISM.—On the authority of M. Dureau, one of the librarians of the Académie de Médecine, the present number of medical periodical publications for France and its colonies is 147, 95 of these being published in Paris, and 52 in the departments. The Germanic Confederation publishes 133 journals, Great Britain 69, Austria 51, Italy 51, Belgium 28, Spain 26, Russia 26, Holland 16, Switzerland 10, Sweden and Norway 9, Denmark 5, Portugal 4, the Danish Principalities 4, Turkey 2, Greece 1—the total for Europe being 583. In America there are 183 journals, in Asia 15, in Oceania 4—the total for the various continents being 785. The number of medical journals created since 1679 exceeds 2,500.—*Lyon Médical*, January 29.

CHILBLAINS.—Correspondents of the *British Medical Journal* have been discussing the treatment of chilblains, and the following opinions have been offered:—

Dr. T. F. Pears says the reactionary power of the circulatory apparatus requires strengthening, by cold bathing, followed by a good "rub down"; and those parts which are the seat of chilblains, as the hands and feet, should be dipped in cold water and well rubbed every night. Alcohol must be entirely given up, as it paralyses the peripheral vessels and favours congestion. Chilblains on the feet are often caused by tight and misshapen boots. The boots should be large, so as to allow thick woollen socks to be worn without compressing the feet. Before the stage of ulceration has occurred nitrate of silver is perhaps the best local application. It hardens the surface, and appears to diminish the congestion of the part by causing contraction of the temporarily paralysed vessels.

Mr. A. De Wattenille is in the habit of treating the complaint with galvanism, which has almost invariably been successful in his hands. The method is very simple. The diseased part is to be thoroughly sponged for a few minutes with the negative pole, the number of elements being sufficient to give as strong a current as can be borne.

Dr. Herbert L. Snow advises liniment of aconite.

Mr. C. E. Greenwood recommends an ointment of lard and dry mustard to be rubbed in before a fire for fully twenty minutes.

Mr. E. T. Crouch (Fareham) says that the chief point seems to be to keep the affected parts from contact with the air. For this purpose he usually paints the chilblain with "collodium flexile," giving it one or two coatings.

M.R.C.S. (No. 1) suggests the use of very hot water, which, in the case of the ears, might be applied by means of a sponge or flannel; in that of the hands and feet, by holding them in the liquid. The water should be hot enough to convert the itching into pain for the time, the temperature being kept up by additions of boiling water occasionally. Some little resolution is required to employ this remedy effectually, but the comfort it produces amply repays for the temporary inconvenience. As a matter of course, measures of prevention should also be adopted.

M. R. C. S. (No. 2) suggests the application of collodion to unbroken chilblains. If broken, probably the use of chloral hydrate would give relief.

Dr. C. H. Hurt believes the following formula will be found most efficacious in cases where the parts are unbroken:—Curd soap, 5j.; water, 5iv.; dissolve by aid of heat, and add—Gum camphor, 3iv.; rectified spirit, 3vj.; essence of bergamot, 45m.; lastly add liquor ammoniæ fortior, 3vj. Make a liniment, to be rubbed into the affected parts. He says that the strong solution of acetate of lead was highly recommended by Sir Astley Cooper, and he believes it to be most useful. He has also used the sulphurous acid of the Pharmacopœia with great success to allay the irritation accompanying chilblains in children.

Mr. W. Squire (Plymouth) says that, when he was a student, Mr. Skeay always recommended opium. Mr. Squire had never known it fail. He gives it as nepenthe, with a little Epsom salts and syrup of ginger night and morning. A dose for an adult is 15 minims, and less for smaller patients. The relief is usually rapid. He has tried many vaunted external remedies, and never found one worth anything.

Dr. R. Fullerton (Stapleton, Bristol) has prescribed a liniment composed of equal parts of liniment of aconite and oil of turpentine with marked benefit. This is only for unbroken chilblains.

Dr. J. B. Sammut (Valletta, Malta) recommends the following treatment. At the commencement and in the inflammatory period use tincture of arnica, 20 minims; rectified spirit, 1 oz. Rub the chilblains well with this, morning and evening, by means of a piece of flannel. Two applications generally suffice for a cure. Should the chilblains be ulcerated, the solution should be applied at the distance of 2 inches; and should the fingers be affected, then the friction is done over the articulation of the hands. Tonics, &c., are advisable, should the constitution require them.

Gossip.

We should not have taken public notice of the comments made at the last meeting of the Pharmaceutical Council respecting this journal if it had not been that an ill-considered remark was made by Mr. Savage, which we do not choose to let pass without a repudiation. No member of the Council has a right to assume that, in admitting our representative to the Council meetings, any privilege is conferred upon us. The concession was made, or ought to have been made, for the advantage of the Society or for the benefit of pharmacy generally, and in that sense alone are we disposed to regard it.

* *

As for the paragraph which gave offence to Mr. Savage, and the president, we may state that it was a return compliment for a new year's salutation with which the Society's journal favoured us. Of the two, ours was in the better

taste, for it did not drag in any foolish personalities. In this, however, as in many other matters of greater moment, the saying is fulfilled that, while one may steal a horse another may not look over a fence.

In Tennyson's new play "The Cup," Mr. Irving as Synorix, after swallowing the fatal draught, says:—

I pray you lift me
And make me walk awhile; I have heard
These poisons may be walked down.

No one is better qualified than Mr. Irving to try the experiment of walking them down; but even he fails at it, and soon after dies in stage convulsions. Miss Ellen Terry, who takes a dose of the same poison, dies a little later in calm and peace. A curious proof of the care with which our great actors study their parts.

The stage has traditions of its own about dying, however, and the most successful actors seem to be those who follow most mechanically the time-honoured ideas. Madame Sarah Bernhardt has been showing the New Yorkers the Palais Royal's notion of death, whereupon the New York *Medical Record* wittily remarks:—"Mlle. Bernhardt's deaths are remarkable, artistic, and effective. We must confess to having seen few in real life that moved us so deeply. The death-struggles, we may say, were remarkably life-like in a certain sense. We have never seen their equal in real death. We can recommend the profession to study the phenomena of the histrionic death as shown in Mlle. Bernhardt, for a physician may practice all his life and never see anything like them."

The *Times* of February 2, in a leading article urging the building profession "to provide the public with some means of ascertaining the title of men who arrogate all important functions," enforces its appeal by remarking that "a man does not accept a dose of castor oil except from hands authorised by some sort of diploma to mix it." How even diplomaed hands could "mix" a dose of castor oil is known to the *Times* alone; but it will be gratifying to the advocates of the new Pharmacy Bill to know that in asking for very much more modest powers than are suggested above they may surely rely on the influential assistance of the great journal which takes for granted the present possession.

"Thank you, Captain," said Napoleon on the field of battle to a young lieutenant who picked up a paper the general had dropped. "In what regiment, Sir?" quickly asked the subaltern. And his smartness won him his captaincy. In what Act of Parliament, Mr. *Times*, are our castor oil rights defined?

Dr. John Risdon Bennett, the President of the Royal College of Physicians, is to be glorified with knighthood. A man who can win in his own noble profession the highest honour which it has to bestow might with dignity decline a tinsel decoration which successful handling of cheeses will sometimes secure. The medical profession has itself to thank for the comparatively low estimation in which it is held. The occasional award of a knighthood to a representative man is not how a nation should treat a class which more than any other, as a class, devote themselves disinterestedly to the service of the public. The eminent surgeon or physician whose time is worth 10 or 20 guineas an hour willingly gives a large share of that time to gratuitous attendance at the hospital; the humble country practitioner, scarcely able to maintain his household in decent comfort, cheerfully gets up in the middle of the night to help at some squalid bedside with the certainty of getting neither pay nor gratitude. What other class of men do generous deeds of this kind as a part of their daily business? But the medical profession lose half the honour to which they are justly entitled because of the selfish, noisy, quarrelsome few who are always claiming to speak in their name, and by whom the outside world is regarded as divided between patients who belong to themselves and quacks who would steal some of their legitimate plunder.

A Baltimore clergyman recently preached on the subject, "Why was Lazarus a beggar?" Probably, says the *American Journal of Industry*, because he didn't advertise.

Most druggists, we suppose, took stock last month. If they came across nothing in their investigation but saleable, useful goods, they are to be congratulated; but if, as is more likely, they found certain drawers or corners encumbered with old stock which is no longer in demand, we advise a prompt clearance: the dust-heap if the articles have lost all their virtue, or the "Exchange Column" if they are still good for anything. Turn them into money if possible, never mind at what sacrifice; you pay rent for space, and the space you pay for and do not occupy with saleable goods is so much dead loss. Make room for something new in your stock which you can make money of.

The examinations in Canada are not quite perfect, if we can trust the statement of a correspondent of the *Canadian Pharmaceutical Journal*. He says that a student was passing through the pharmacy tests, and was addressed by his examiner as follows:—"Well, supposing you were behind a counter, what way would you find out the weight of a pint, or, d—n it, of any measure, of syrup, supposing your boy had your scales in the back shop cleaning them?" The art of converting an examination into a set of conundrums is fascinating enough to an examiner, but it inevitably ruins the process as a test of knowledge.

An examiner in chemistry at Bloomsbury Square asked a candidate what was the action of the diamond on glass. "It cuts it," was the very natural reply. "Yes; but what else?" rejoined the examiner, and he was surprised that the candidate should go away and say that he had been asked to tell what chemical effect the diamond had on glass. The examiner and the candidate each thought the other stupid. Now, there is a line somewhere in Fownes which tells that the diamond has a *clearing* action on glass. If the candidate had only been primed to that little wrinkle he would have been patted on the back as a clever fellow. Such questions directly encourage cram, and, indeed, make it necessary. That particular question, too, would have been better fit for the examination of embryo plumbers and glaziers than chemists and druggists.

American customers have struck out styles of spelling drugs, some of which will be new even to our own often puzzled pharmacists. The following are items from a collection published in the *Western Lancet*:—Two rows of shell powders (Rochelle powders). "I wants Rochelle powder, which paper is it that buzzes?" Five cents of distracted lemon (extract of lemon). Sulphur and ink for eye-wash (sulphate of zinc). Tyrant's appearance (Tarrant's aperient). Ten cents worth of gentlemen's magnesia (calcined magnesias). Ten cents worth of Rushing salve for an absence. Twenty-five cents of merry-fee'n (morphine). Absolum salts (Epsom salts). Globular salts (Glauber salts). Trot-cheese (troches). Cod-fish cordial (Godfrey's cordial). Mrs. Allen's hair reliev'er (restorer). Salts of demoniac (salts of ammonia). Twenty-five cents of pan panashy (pain panacea). Ten cents worth of suthing for purified sore throat. Blew mast pill, frash made, fora lady; five cents sea manner (blue mass and senna manna). Please send me ether wirm lossengers er wirm all. Sirs, please to let me have five cents worth of birth amount for the hair (bergamot oil). Ten cents worth of blow maske for the lever. Two blewmass pills, aged 57 years (all meaning blue mass, or with colocynt; and in the last it was presumed that the age referred to the lady, and not to the pills). Clo de pot ass. Nighter a rubururil syrup (Niter and rhubarb syrup). Red paccifficates (red precipitate). Colballack assett (carbolic acid). Oxally gassid (oxalic acid). Grocers supplement (corrosive sublimate). Gumbberabic. Fluck-seemal. Salce of tartar lickrish; heartstone. Spirit of mourning (spirits of ammonia). Tinch'er of eye dye (iodine). Poorest plaster (porous). Salts Insina (salts and senna).



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F

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For full particulars, see CHEMISTS' AND DRUGGISTS'
DIARY, pages 60, 116, 172, 179, 183, 194, 197, 198,
and 213.

ELLIMAN'S EMBROCATION.

See page 88.

MAY & BAKER. { SPECIAL NOTICE,

page 2.

EDITORIAL NOTES.

AMENDING THE PHARMACY ACTS.

It can hardly be said that the trial trip of the new Pharmacy Bill has been a particularly prosperous one. It had hardly started when a mutiny broke out among the officers, and some of the sharpest criticism of the defects of the Bill has come from those who helped to frame it. A lovely thing in ethical disputes has been raised over the fifth clause, and on the eve of going to Parliament the trade is divided into two camps diametrically opposed as to some of the provisions which Parliament is to be asked to grant. Both sides, of course, earnestly advocate unanimity, but each stands "upon principle," which is always the sheet-anchor of obstinate persons. Outside the Council it cannot be said that the Bill has excited any enthusiasm. We did not expect it would succeed in this respect. The philosophers of the trade who can appreciate the difficulties around and in front of the Bill, and can read between the lines, are satisfied that in this Bill the Council have asked for quite as much favour as the Legislature is at all likely to grant. That class may approve of the Bill in a quiet sort of way, but they never

indulge in enthusiasm. The only chance of arousing a vigorous energy in support of the Bill was by drafting one which should uncompromisingly demand such special privileges for chemists as would really amount to a subsidy to the trade on the part of the nation. That such a Bill could never advance to its first stage even is a consideration of secondary importance. Many would rather have had an impracticable Bill enshrining exorbitant claims, than a document which might be submitted with just confidence to serious legislators. Numbers, think, for example, that the time has come to ask the Legislature to grant to registered chemists the exclusive right to deal in "drugs and chemicals." Does anyone for a moment soberly think that Parliament would consent to prevent grocers from selling soda or vinegar?

But not to allude to extreme suggestions, we may pay the Council the compliment of remarking that except on points fairly open to discussion their Bill hardly seems to have suffered much from the attacks of its keenest critics. The abandonment of its first clause in deference to Scotch desire is not a matter of general interest. The proposals of Mr. Edward Smith to add "house or other place" to the phrase "open shop," so as to get at co-operative stores, and to substitute the word "distribute" for the expression "sell or retail," so as to get at traders who might evade the Act by giving a poisonous patent medicine with a certain quantity of tea, do not seem very happy. It is obvious that by such alterations the Bill would "get at" far too many people. It is by no means certain whether co-operative stores who supply tickets to all comers, and even those who do go through some farce in regard to them, do not keep open shop. The stores are by no means confident on this point themselves, or they would not have defended the outer entrenchments so vigorously as they did by supporting the action of Mr. Mackness (Limited). Someone makes a suggestion that wholesale druggists should be required to register. At first sight there seems some point in this suggestion, for errors certainly may arise, and have arisen, through carelessness or ignorance on the part of wholesale druggists. But what about all the brokers and manufacturers who handle special drugs and chemicals? Is it not clear that it would be inviting ridicule to propose to make them register? Others are desirous of compelling branch shops to be managed by qualified men. But such a proposal, reasonable though it seems from one point of view, strikes at the principle of the Bill, which is to insist on the personal qualification of the proprietor. That attained, and his responsibility recognised, it is surely better to leave him to judge as to the management of his business or businesses. If qualification on the part of the manager of a branch is to be required, so should qualification of an assistant, left to manage during the temporary absence of the principal, be demanded, and even half holidays might at last be denied to hard-working pharmacists.

But to return to the 5th clause of the new Bill, which has been considered by the majority of the Council necessary to its completeness. The Bill, they say, is jeopardised if they permit executors to carry on a business for an indefinite time with the aid of a qualified assistant, the essential principle of the Bill being qualified proprietorship. No one can deny the cogency of the argument, but for all that, it is much to be regretted that the question has been raised, and more to be regretted that in view of the strong feeling evoked against the clause it was not gracefully abandoned. To say that the Act certainly cannot pass without it is manifestly an erroneous assumption. How came the 1868 Act to pass? The principle of that Act was the same as of this, or, at least, was intended to be the

same. And are there not multitudes of Acts which include some inconsistencies? Is not compromise an essential feature of legislation? And, besides, are not widows and orphans, left suddenly, with only a business to look to for an income, deserving of some consideration which need not be shown to a limited company? But the advocates of the clause say that, in enforcing the sale of a business on the death of the proprietor, they are really the widow's best friends. Even assuming that, there is, as one of themselves has admitted, very little argument in it. The Spanish inquisitors used to apply the rack and the thumbscrew out of the truest affection for their victims.

Surely, then, and especially in view of the opposition aroused, the old clause, which has done no harm hitherto, might have been left undisturbed. We are sorry this counsel did not prevail, for we believe the Bill, if passed, would have done as much for the trade as may be expected from any Act of Parliament, and it is certain that its chance of passing, small enough in any case, is rendered much more minute by the schism thus created among its advocates.

THE MEDICAL COUNCIL AND THE DENTISTS ACT.

THE question of the interpretation of the Dentists Act, which has caused such warm discussion for a year or more, has now been authoritatively settled by the General Medical Council. In the ordinary course the Council was not expected to assemble till July next, but it was deemed undesirable to delay the publication of the register until that date. Consequently, at an expense of nearly 500*l.*, according to the *Lancet*, the Council were assembled for a single day's session. The question at issue is familiar to most of our readers, but may be briefly re-stated, probably for the last time. Under clause 6 of the Dentists Act "any person who is, at the passing of this Act, *bonâ fide* engaged in the practice of dentistry or dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy," might claim registration. A very large number of chemists did claim registration, and were registered after payment of the prescribed fee. The number of chemists who registered very much astonished the dental sages who had clamoured for the Bill, and, in a manner which will ever be remembered to their discredit, a section of them set to work to see how they could reduce the proportion. They formed a British Dental Association, and they bought a counsel's opinion, which we published at their request in November, 1879. Mr. Fitzgerald, the counsel consulted, gave it as his opinion that "the occasional performance of one class of dental operation, such as the extraction of teeth, does not constitute *bonâ fide* practice of dentistry"; and also that "the *bona fides* applies equally and separately to the practice of pharmacy, and an assistant in a chemist's shop not registered in the Chemists and Druggists' Register cannot be regarded as in the *bonâ fide* practice of pharmacy within the Act." For some reason the Association did not venture beyond vague menaces on the first opinion quoted, but they made a raid on the assistants and others who had registered as having practised dentistry in conjunction with pharmacy, but whose names did not appear on the Chemists and Druggists' Register. Their circular quoted Mr. Fitzgerald's opinion as though it had been an authoritative judgment, and also made a reference to the 12 months' imprisonment to which an applicant was liable if he were found to have made a false and fraudulent declaration. Some 60 or 70 assistants in consequence of this circular agreed to have their names with-

drawn from the Dentists' Register, but a list of 115 was submitted by the Dental Association to the Medical Council. Another list of about 20 names who had registered as in the *bonâ-fide* practice of dentistry in conjunction with medicine or surgery, but not on the Medical Register, was subsequently submitted by Dr. Jacob, of Dublin, and both lists were referred by the Council to its Dental Committee.

At the recent meeting of the Council the report of the Dental Committee was first taken. With regard to the 115 persons whose names were not on the Chemists and Druggists' Register, the report stated that "On application being duly made to these persons as to the grounds on which they had described themselves as practising dentistry in connection with pharmacy, they have given explanations which show that they were managers, assistants, or apprentices to chemists and druggists, and considered that in that character they were practising pharmacy, and the committee have no reason to doubt but that this was done from a misconception of the meaning of the Act, and without any fraudulent intention."

When next the opinion of counsel came to be read, "the misconception of the meaning of the Act" seemed to rest somewhere else. A case had been submitted to the present Solicitor-General (Sir John Farrar Herschell) and Mr. Montague Muir Mackenzie, and we give in full their very definite opinion, so far as it concerns the points of interest. The questions submitted will be sufficiently indicated by the replies.

I. We are of opinion that the words "*bonâ fide* engaged in the practice of dentistry or dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy," have no reference to any legal qualifications to practise medicine, surgery, or pharmacy. They are simply intended to indicate that if the person seeking registration is qualified to be registered by reason of his being *bonâ fide* in practice as a dentist, he is to be none the less so entitled because that is not his exclusive occupation, but is only carried on by him in conjunction with the practice of medicine, surgery, or pharmacy.

A. We are of opinion that a duly-qualified dentist need not necessarily be in business on his own account. If a person is discharging the duties of a dentist, and really practising as such, he is not disqualified from registration merely because he is acting as assistant to another. But he would be so if his duties consisted merely in rendering assistance to his employer, and not in the independent performance of dental operations.

B. We are of opinion that the question whether the name of a dentist seeking to be registered in conjunction with medicine, surgery, or pharmacy, is or is not on the Medical Register or the Pharmaceutical Register, is immaterial. The practitioner in dentistry is to be registered in respect of his dental qualifications only, and the Council need not inquire as to his right to practise medicine, surgery, or pharmacy.

C. It is immaterial whether the person seeking registration in conjunction with medicine, &c., is an assistant or not, provided he possesses the requisite dental qualifications.

D. We think that apprentices to chemists practising dentistry cannot claim to be registered as *bonâ fide* practising dentistry in conjunction with pharmacy. The 37th section provides for the registration of apprentices and students in certain specified cases, but except in the cases provided for in that section we do not think that apprentices can claim registration.

E. We think it is immaterial what form of pharmacy [homeopathic, veterinary, &c.] a person practises, provided he satisfies the dental qualifications necessary for registration.

A. We are of opinion that a person can claim to be registered under clause C of Section 6 on signing, as prescribed in section 7, the declaration in the schedule to the Act. The Registrar may, if he thinks fit, require the declaration to be affirmed by a statutory declaration, as provided by section 7, but nothing more can be required.

B. The General Medical Council can, in our opinion, omit from the Dentists' Register the words "with pharmacy," or any like words, in every case in which they think proper to do so. Such words are, in our opinion, superfluous, and should not have been placed on the register at all. The register should, in our opinion, contain the names of the practitioners, with any dental diplomas or qualifications to which they may be entitled, but should not contain any reference to their qualifications or practice either in medicine, surgery, or pharmacy.

C. We think that the only additional qualifications which should appear on the register are those which express or imply fitness to practise dentistry (section 11, clauses 2 and 6). If a candidate for registration

desires to have such additional qualifications registered, we think that the Council can certainly require proof of such qualifications by the production of the necessary diploma, degree, or licence.

On this opinion the Council, with some reluctance, but with a thoroughness which does honour to their sense of justice, resolved,—

First, on the motion of Dr. Humphrey:—

That all statements with reference to the practice of medicine, surgery, and pharmacy, now appearing in the Dental Register, be erased therefrom:—

Secondly, on the motion of Dr. Pitman:—

That the report of the Dental Committee not having put the Council in possession of evidence to show that any of the registered dentists named in the corrected list of persons submitted by the Honorary Secretary of the British Dental Association (set forth in pages 245 to 248 of vol. xvii. of the Council's Minutes), or of the registered dentists named in the letter of Dr. Jacob's (Minutes, vol. xvii., page 256), were not, at the time of their registration, *bonâ fide* engaged in the practice of dentistry, the Council is therefore not prepared to order the removal of any such persons from the Dentists' Register.

And, thirdly, on the motion of Dr. Humphrey:—

That the persons mentioned in clause 5 of the Dental Committee's Report as having been actually removed from the register at their own request be, on their application, restored to the register without fee, subject to the discretion of the Executive Committee as to the grounds on which their names were so removed, and the grounds on which registration is claimed.

The Council further declined to interfere in several individual cases which had been brought before them. One man, named Christian Friedrich Wilhelm Ackermann, was a hair-dresser and tobacconist, as well as a dentist. Mr. Macnamara asked, with rhetorical force, "Was such a person to be admitted on the same register as the honoured name of Tomes?" Dr. Quain said the Committee had seen this man, who had pulled out 612 teeth last year, and the impression left on the mind of the Committee was that they would much rather have their teeth extracted by him than by many others on the register.

The medical journals have set up a chorus of indignation against the Medical Council for their decisions; but it would be difficult to say how a responsible executive could have acted otherwise. For ourselves, we cannot but feel some gratification that the opinion we expressed when the question was first asked us, which we repeated in the face of Mr. Fitzgerald's opinion, and which we maintained when the action of the British Dental Association frightened a good many people into writing us angry letters for having, as they intimated, led them into a snare, has been so completely vindicated.

ASSISTANT-JUDGE EDLIN ON THE WEIGHTS AND MEASURES ACT.

WHILE we record with pleasure another legal victory scored by the Trade Association, in the appeal they have made from the recent interpretation of the Weights and Measures Act by the Middlesex magistrates, we cannot anticipate much permanence for Mr. Edlin's definition of the law. It is very satisfactory to find that learned judge so evidently impatient with the practical injustice of prosecuting a tradesman for an alleged offence which, if it existed at all, was ultra-microscopic, and was certainly outside of his power to guard against. The evidence offered by the prosecution alone conclusively showed the impossibility of getting absolute accuracy in the graduation of minim measures, or, at all events, of getting results which could not be disputed. The witnesses who checked one another differed among themselves, sometimes to an astonishing degree, as to the measurement of fractions of minims, and even the scientific

witness relied upon by the prosecution failed to make his duplicated observations tally. Dr. Redwood was prepared, but was not called upon, to testify for the defence as to the practical impossibility of ensuring graduation which may not be subject to the condemnation of inspectors. If the conviction had been quashed on that ground there would have been some hope of this new irritating persecution of chemists collapsing, and the position of the trade would have been clear. But the curious grounds on which Judge Edlin gave his decision not only leave unsettled the practical question at issue, but, worse still, open a vista of legal argument which all the minim measures in the United Kingdom do not justify.

Mr. Edlin found that Mr. Whittle was using minim measures duly stamped. He had done all in his power to conform to the law, and in the opinion of the Board of Trade his measures, though not quite perfect, were so nearly correct as not to justify a prosecution. But the conviction could not be quashed on the ground that the defendant had bought the measures stamped. The Act says that a stamped weight or measure "shall be a legal weight or measure throughout the Kingdom, unless found false or unjust." Very well then, says the judge, unless it can be proved that Mr. Whittle used these measures after they had been found false he has not committed an offence. That judgment would have been perfect if the Act had said "until found to be false" instead of "unless found to be false." Mr. Edlin, a few minutes after he had started this theory, observed this distinction, but he still maintained his dogma. The effect of his judgment is that, according thereto, it will be impossible to convict anyone trading with weights and measures, no matter how false or unjust, provided only they are duly stamped. For, as will be readily seen on consideration, the weights or measures are not "found" to be false or unjust except by conviction; and a conviction cannot be obtained unless the trader has used them after they have been "found" false. In other words, conviction must follow a conviction, and a first conviction is impossible. It is evident that either Mr. Edlin's judgment or the statute itself is curiously defective.

THE MYSTERY OF THIRST.

A COMMITTEE of St. George's Hospital has lately investigated the system adopted at the 12 chief London hospitals in regard to the administration of alcohol to patients. They have found that the practice at St. George's is a fair average of the general system. About 25 per cent. of the patients are allowed stimulants other than malt liquors, which seem to be allowed almost as a matter of course. But the most startling results of the committee's investigations are found in the revelation of the previous drinking habits of the patients. In the 12 hospitals only one total abstainer was discovered. The daily practice of many of the others is almost incredible to quiet people who take their one or two glasses daily, and are sometimes made to feel themselves miserable sinners for doing that. The following are the instances recorded by the committee, showing what had been the daily consumption, previous to admission, of certain patients:—Three or four pints of beer, and two glasses of whisky (age 53); four or five pints of beer, with frequent excesses (age 59); ten pints of beer and ten glasses of whisky (age 23); hard drinker, chiefly of rum (age 30); indulged in great excesses, often drink two bottles of brandy a day (age 43); eight pints of beer daily (age 42); four pints of beer, with excesses (age 38); eight pints of beer daily (age 42); five pints of beer, with excesses (age 38); three glasses of whisky (age 34);

one pint of beer and six glasses of whisky, with excesses (age 45); eight pints of beer, with two pints of gin or whisky (age 43); one or two pints of beer, with ten glasses of spirits (age 36); up to ten or twelve pints of beer, and four glasses of whisky (age 22); twelve pints of beer and five glasses of gin, with excesses (age 41); from eight to ten pints of beer, and sometimes a pint of gin (age 39); from sixteen to twenty pints of beer, and a glass of spirits (age 54); described himself as a hard drinker of wines and spirits (age 22); twelve pints of beer, and eight glasses of spirits (age 38); ten or twelve pints of beer, and from half to one pint of gin (age 55); one pint of beer, with three-quarters of a pint of gin daily, with frequent excesses (age 45); one to two pints of beer, and one pint of sherry (age 53); one bottle of claret (age 39); one gallon of beer frequently (age 33); beer very freely (age 34); four pints of beer, and much spirits (age 39); from three to four pints of beer, and from one to twelve glasses of rum (age 54); seven pints of beer, and seven glasses of spirits (age 41); drunk three times a week (age 36); a confirmed drunkard (age 33); immense quantities of whisky (age 45); twelve to fourteen pints of beer, and a variable amount of rum (age 31); ten pints of beer, and a pint and a half of rum (age 45); the largest consumer of beer "never exceeded" twenty-six pints a day (age 35); the largest consumer of spirits took twenty to thirty glasses of gin daily (age 30). Some of these patients are said to be "gouty."

THE LONDON WATER SUPPLY.

MR. CROOKES, DR. ODLING, AND DR. TIDY have united in an amateur but very thorough investigation of the water supply of London. During the month from December 20 to January 19 last they tested the water of the various companies almost daily, and in a series of tables which they have published they give the appearance in 2-foot tubes, the quantity of matter in suspension, the proportion of chlorine as chlorides, nitrogen as nitric acid, organic carbon and nitrogen, free oxygen, and the initial hardness. It is very satisfactory to find that these three eminent chemists conclude from their series of analyses, "that, considered both chemically and physiologically, the water delivered by the companies during the month over which these examinations extended was of excellent quality, wholesome, and in every respect well fitted for the supply of the metropolis." In regard to clearness the results may be classified as follows:—The New River Company's water was perfect; from the East London and the Chelsea Companies two samples "very slightly turbid" were noted; and one such from the West Middlesex Company, seven from the Southwark and Vauxhall Companies. The samples from the Lambeth and the Grand Junction Companies' mains were not quite so satisfactory.

APOTHECARIES' MEASURES.

IN the House of Commons on the 11th inst., Mr. Ross asked the President of the Board of Trade whether, under the uncertainty existing as to the interpretation of the 45th section of the Weights and Measures Act, 41 and 42 Vic., cap. 49, he proposed any legislation on the subject by which an inspector should be bound to accept as correct any measure or vessel duly stamped by an inspector outside his district without himself verifying the accuracy.

Mr. Chamberlain said the 45th section of the Act is as follows:—"A weight or measure duly stamped by an inspector under this Act shall be a legal weight or measure throughout the United Kingdom, unless found to be false or

unjust, and shall not be liable to be restamped because used in any place other than that in which it was originally stamped." It is only when found to be "false or unjust" that a weight or measure is liable to be restamped. There has been a recent conviction by magistrates for the use of a druggist measure on the ground of inaccuracy, though it had been stamped by an inspector; but this conviction has been quashed on appeal, on the ground that, though slightly inaccurate, it was not shown to be false or unjust. Under these circumstances, I do not at present anticipate any difficulty from the action of different inspectors, and I do not think it would be desirable to make the stamp of an inspector an absolute protection where "falsehood or injustice" can be proved. I may add that the Board of Trade are preparing a table of the errors which may be allowed in druggists' measures, and I hope that this may help to remove the difficulties local inspectors have found in dealing with these minute quantities.

THE HOME SECRETARY ON THE SALE OF ARSENIC.

On the 10th inst., in the House of Commons, Mr. Chaplin asked the Home Secretary whether his attention had been called to a case of horse poisoning at Ruskington, in Lincolnshire, in which it was shown that two horses had been poisoned with arsenic by George Olive, the person in charge of them, and whether he was aware that evidence had been given in the case to the effect that arsenic sufficient to poison 50 horses had been sold by Mr. Smith, chemist, at Sleaford, to Olive, and that it was entered in the chemist's book "to be given to horses"?

Sir W. Harcourt said, in reply: With regard to this matter, I find that a person guilty of horse poisoning has been punished under the recent Act. As to the chemist who sold the arsenic, he might be punished, because the purchaser was under age. That, of course, would not entirely answer the question, because the purchaser might be of full age, and the true remedy is in the amendment of the Arsenic Act, 1861, and if my hon. friend would introduce a Bill for the purpose I should be happy to assist him.

We should hope that this opportunity of interesting the Home Secretary in the Pharmacy Bill will not be lost sight of by the Committee in whose charge it now rests.

THE PHARMACEUTICAL EXHIBITION

It is stated that the committee requested by the Pharmaceutical Council to make arrangements for a pharmaceutical exhibition, either on the occasion of the annual meeting in May, or in connection with the Pharmaceutical Congress in August, have decided to hold it in May. Applications for space will have to be submitted by May 1.

A large medical and sanitary exhibition will be held at South Kensington in connection with the International Medical Congress. Seventy thousand square feet of area will be devoted to it. Besides medical exhibits strictly so defined, domestic and hospital architecture; ventilation, lighting, warming; water-closets, &c.; water supply and filtration, will be admissible subjects. Mr. Greenish, as President of the Pharmaceutical Society, has lately been asked to join the committee, and we may add that the secretary's address is "Parkes Museum of Hygiene, University College, Gower Street, W.C."

We publish this month an advertisement issued by the *Nederlandsche Maatschappij ter bevordering der Pharmacie* (the Netherlands Society for the Advancement of Pharmacy), announcing that a Pharmaceutical Exhibition will be held at Rotterdam in 1882 in connection with that society, and offering to send particulars.

THE NEW PETROLEUM.

THE curious hydrocarbon, or mixture of hydrocarbons, which we mentioned last month on page 24, under the title of "A Rival to Petroleum," created a good deal of interest in Paris where the experiments were made. The experiments which we described as having been exhibited at the Société d'Encouragement, were repeated at the Conservatoire des Arts et Métiers, and they were watched by many eminent men of science, such as Dumas, Jungfleisch, and others. On the second display, the exhibitor, M. Kordig, who, it appears, is a Hungarian, and not a Russian, quoted 1*l.* 60*c.* as the probable price of his fluid per kilogramme, instead of 1*l.*, as had been before named. Everybody wanted to get samples of the strange product, but suddenly it appeared that M. Kordig had left Paris and had left behind him no trace nor indication of his present address.

It is supposed that the manufacturer of the liquid must have somehow or other miscalculated his ability to supply the article in the required quantity; or it may be that M. Kordig's evaporation is only a skilfully-devised movement to still further arouse public and scientific curiosity.

In the report of his experiments given in *La Nature* it is stated that, in order to show the harmlessness of his fluid, he poured a quantity of it on his hat and set it alight. He then put his hat on his head and the flames reached to the ceiling, but when the liquid was quite burned away the hat was found to be uninjured. He could hold the burning liquid in the hollow of his hand and only experience a moderate warmth. These conditions are due to the fact that the fluid gives off an inflammable vapour at 35° C., and that the tension of the vapour is so considerable that it alone burns and not the liquid.

M. Kordig said his product was a very volatile essence of naphtha, to which certain ethers of his own composition had been added. It was, however, believed that the fluid was the first distillate of certain natural oils which had been found in Hungary.



AND

Literary Notes.

THE HAHNEMANN LECTURE.

Eccle Medicus, or Hahnemann as a Man and as a Physician, and the Lesson of his Life. Being the First Hahnemannian Lecture, 1880. By J. Compton Burnett, M.D. London: The Homœopathic Publishing Company.

LAST year the London School of Homœopathy resolved to institute an annual Hahnemannian Lecture, and they chose Dr. Compton Burnett to deliver the first of the series. We briefly reported the lecture soon after it was delivered, but we are very pleased to have the opportunity of a more careful study of it in the elegant form in which it has been published.

Dr. Burnett is thoroughgoing in his worship of his hero; and readers of Carlyle know how pleasant it is to read a biography glowing with reverence, and indignant at the mildest criticism. The cold, careful, just historian will conquer the most permanent place for his work in the long run, because scholars will look to his treatise for reliable information; but the crowd enjoy best the heartiness of a partisan. Partisanship, we suppose, is to be an essential qualification for the Hahnemannian lectureship; but if the authorities of the school would add a special interest and value to the oration instituted by them, we would suggest

that an avowed critic, if not opponent of Hahnemann's theories should be invited to deliver the lecture on alternate occasions.

The perusal of Dr. Burnett's sketch forces this observation upon us. One is compelled to doubt whether any mortal man could be so good, so wise, so invariably in the right as was his Hahnemann. Germany must have been filled with incarnate fiends, too, at the time when he lived, or how are we to account for the perpetual persecution of the "gentle and genial" being who so constantly sought to enlighten and benefit them? Dr. Burnett might have chosen for the motto for his book, better than the line of Schiller, that of our own Mr. Wesley, "Into a world of devils sent, I stand on hostile ground, While raging wolves on slaughter bent, And ravenous bears abound."

Hahnemann's life is, however, well worth telling once or twice at least. It was a long laborious life and full of variety. According to Dr. Burnett, Hahnemann taught Hebrew at 13, was familiar with eight languages at 20, was a doctor of medicine at 24, abandoned his profession a few years later "for conscience sake," and still before his prime discovered the true law of cure, for which after ages are to bless his name. When we are told that he refused to practise medicine because he was dissatisfied with the system of therapeutics, and confident that a law did exist whereby medicine might be made truly scientific, we are not surprised to find soon after that he discovered such a law; it was a foregone conclusion that he would. But Hahnemann groped for some time. No one will be surprised to hear that a Scotchman was in reality the originator of the great discovery. During the poverty which Hahnemann suffered for his stern obedience to conscience he was employed to translate a work on *Materia Medica* by the Scotch professor, Cullen. How his conscience managed to let him translate books of false doctrine, though it was so troublesome in other respects, is not quite clear; but all was to be ultimately for the best. In this book Cullen was very severe on all *materia medica* authors who had preceded him; and to that extent his translator followed him, and went the one step further of condemning Cullen likewise. But in translating this work, Hahnemannian homeopathy was born. Cullen, in discussing cinchona, said the bark cured ague because it was a bitter and an astringent combined, and at the same time somewhat aromatic, a tonic, and a roborant. Hahnemann, in a foot note, points out the unsatisfactory character of this explanation, and goes on to narrate an experience of his own with the bark, telling how by taking it he had produced on himself most of the symptoms familiar in ague; and he adds, "had he (Cullen) for a moment reflected that one can prepare from an extract of quassia and oak apples a far more powerful astringent, better than cinchona is, but which, nevertheless, cannot cure a quartan fever that is half a year old; had he scented in the bark *a power of exciting an artificial antagonistic fever*, &c., most certainly he would not have so zealously stuck to his own hypothesis."

That Hahnemann's keen observations are worthy of careful attention has been indicated by the course of modern medicine: Dr. Burnett insists upon, and to a great extent proves, his right to be regarded as an original thinker. The style of the author is combative in the highest degree; but as the sketch of a man of genius it is of permanent interest, and those who succeed him as Hahnemannian lecturers will find this performance hard to beat.

In reading this book we noticed a curious unconscious couplet which may be reproduced. On page 30 occurs this passage:—"Till Hahnemann, homeopathy was an obscure, wandering, and despised maiden thought, awaiting marriage with a male mind; *this thought became united with Hahnemann's mind, and fecundity followed for the weal of mankind.*"

Aërated Waters, and How to Make Them. By Joseph Goold. London: J. Gilbert Smith, 141 Queen Victoria Street, E.C.

THE author has fairly succeeded in his aim in writing this book, as stated in the preface to be "to give in few words a large amount of clear and reliable information on the subjects treated of."

By reference to the book itself we find that these subjects

not only include such practical questions as discipline, machinery, bottle-washing, filtration, &c., but also anti-ferments, flavouring, detersinising processes, froth for aerated waters, soluble essence of ginger, &c. On the former subjects difference of opinion is hardly to be expected, but in those last mentioned we have ample scope for research and discussion. While we do not consider that in every case the best advice has been given or the best process adopted, we believe that, on the whole, aerated-water makers will derive much instruction and useful information from this little book. Three pages (25-27) are devoted to the discussion of *dissolved air* in bottles of aerated water, and a simple method for its estimation is given. On page 32 we read: "Every mineral-water manufacturer is sufficiently familiar with the fact that atmospheric air destroys the sparkling properties of aerated waters." The reason *why* is not, in our opinion, fully pointed out, although a partial explanation is given on page 25. As this point has been already fully discussed in these columns (October 15, 1889), we need not further refer to it.

On page 49 we read, "About 1 dram (60 minims) of oil of lemon can be completely dissolved in 1 gallon of syrup; but I think this is near the limit." We have found by experiment that it is possible to dissolve rather more than this quantity. We placed 20 oz. of syrup (lemonade syrup without the oil of lemon) in each of two Winchester quarts (A and B), and added oil of lemon to A, 1·6 c.c.; to B, 3·2 c.c. After thorough agitation, and separation of the oil in a graduated burette, A yielded ·9 c.c., while B yielded 2·5 c.c., of undissolved oil, showing that each had dissolved ·7 c.c. of oil, or about 86 minims.

The oil which we used was very fresh, and had not been exposed to oxidation.

For those who prefer it Mr. Goold has given ample and satisfactory directions for the manufacture of a soluble essence of lemon made from the oil, and many manufacturers will regard this as of special importance.

Soluble essence of ginger, as our readers will remember, has exercised the ingenuity of many experimenters, notably Messrs. Thresh and Proctor. Mr. Thresh's amended formula is given in full, but is dismissed as being unnecessarily complex. Instead of it a process is recommended having as a principle the production of gelatinous phosphate of lime in the tincture of ginger, diluted with water, and the removal of the objectionable resins as the precipitate subsides. We have tried the different processes, as well as that of Mr. Proctor, in which sulphuric acid is used to precipitate the resins, but in all of these the loss of gingerol by absorption in the resins or in the precipitates, as the case may be, is always very great. In our experience the processes given on pages 64, 65 are much more likely to give satisfaction, although manufacturers will probably find that a soluble essence, which will remain clear with water, will frequently throw down a precipitate with lemonade syrup.

Froth-producing agents are recommended, or at least enumerated. In this connection those of our readers who are mineral-water makers may, perhaps, be glad to know that a slight addition of infusion of senega to their saccharine beverages will make them *foam* to their heart's content. We would remind them that the *foam* is a snare and delusion, as its virtues lie solely in its appearance. One-third of the book is taken up with recipes for the numerous beverages now manufactured, as well as for imitations of several of the foreign natural waters, and a chapter on the Art of Flavouring and the various flavouring substances brings the whole to a close. It may be an additional recommendation that the book is only sold to chemists and aerated water makers.

MR. R. J. WELLS, manufacturing chemist, of Barton-on-Humber, sends us a pamphlet on "Flukes or Rot in Sheep," with reports showing his cure of their most troublesome and deadly parasites by pure vegetable charcoal. The pamphlet may be had for 6d., and we advise chemists who can make use of the information to send for a copy.

In the "Family Physician," of which 13 out of 33 parts have now been issued, Messrs. Cassell, Petter & Galpin have certainly produced the best domestic treatise on hygiene

and medical subjects with which we are familiar. The articles are written in a fresh and, we may say, lively strain, no fanciful theories are apparent, but under each disease good sound advice is given. The authors believe in medicines administered with judgment, and they prescribe in numbers of instances the kind and form of medicine which has been proved most beneficial. In the present part lung complaints, megrim or sick-headache, and neuralgia, are discussed. On each subject the discussion is as exhaustive as it can be without becoming technical. The remark that "excessive reading of trashy novels is one of the conditions most favourable to the development of neuralgia" is one that is a little out of the groove of general medical works, but there is a good deal of truth in it.



APOTHECARIES' MEASURES.—APPEAL: REGINA V. WHITTLE.

THIS case was in the list of appeal cases down for hearing before the Middlesex Sessions, held at Westminster on Saturday, January 22, when Mr. Besley, Q.C., appeared for the appellant, instructed by Mr. Henry Glaisyer, solicitor of the Chemists and Druggists' Trade Association of Great Britain, and Mr. Poland, Q.C., appeared for the respondents, instructed by Mr. Greenwell, Vestry Clerk of the parish of Marylebone.

On the case being called, Mr. Poland asked for a postponement, as it could not be finished that day.

After some little discussion, this course was agreed to.

The case was heard on January 29 at the Guildhall, Broad Sanctuary, Westminster, before the Court of Quarter Sessions for Middlesex; P. H. Edlin, Q.C., Judge of the Court of Sessions, presiding, assisted by an influential bench of magistrates.

Mr. Besley, in the first place, raised a technical point. He said: The statute on which this conviction was made is the 41 & 42 Vic., ch. 49, and sec. 25 enacts that "every person who uses or has in his possession for use for trade any weight, measure, scale, balance, steelyard, or weighing machine which is false or unjust shall be liable to a fine not exceeding 5*l*." "*For use for trade*"; those are the important words, and it is obvious that this statute is only intended to apply to such weights, measures, and scales as are used for the purposes of trade; that is to say, if you have in your attic scales and weights, and use them for the purposes of weighing your food to limit your diet, you are not liable to any penalty in case they are inaccurate or unjust. The conviction itself wholly omits to say that these measures were in use for trade, and on these grounds, I submit, the conviction is bad; indeed, there is no conviction, as unless it was proved before the justices that they were used for trade, no conviction can stand; and, if it was so proved, then, surely, the justices would not have omitted that all-important and essential fact from their conviction. The matter is governed, I submit, by the judgment of the Court of Queen's Bench in the case of the Queen v. Bradlaw.

The Assistant-Judge: Those words are certainly not shown upon the conviction, but we may think proper to amend the conviction.

Mr. Besley: Without those words there is no conviction, and you have no power to make a conviction by adding those words. The appellant was fined by the justices; they either had in their minds that these measures were for use for trade, or that they were not used by him for the purposes of his trade. If they were satisfied that they were

for use for trade, why do not those most important words appear on the conviction? They have not convicted the appellant of having them in use for trade; therefore, the supposition is that it was not proved that they were in use for trade, otherwise those words would have appeared on the conviction. If you amend the conviction by adding the words "for use for trade," you will make a conviction, and that, I submit, you have no power to do.

The Assistant-Judge: Is it not a mere defect of form?

Mr. Besley: I think not, my lord. It is the offence that is omitted. There is no offence whatever on the conviction.

The Assistant-Judge: I see this is a printed form of conviction: is it a form applicable to some other statute?

Mr. Poland: It is a form that has been in use for many years under a local Act.

The Assistant-Judge: Then, Mr. Poland, can we supply this omission?

Mr. Besley: If a conviction is merely inaccurate you may supply sufficient to give it strength, but you cannot create a thing. You are asked to positively create a conviction where no conviction now appears. This state of things may arise: the Court below may have been of opinion that these measures were not used for the purposes of trade—this view is supported by the fact that the words "for use for trade" were not in the original summons—and yet fined the appellant. Are you going by amending this conviction to say that the justices had it in their minds that these measures were for use for trade? because it amounts to that if you amend this conviction. I maintain you should return the conviction to those sessions before you begin to exercise your amending powers, and so make a conviction.

Mr. Poland: My lord, I must, of course, admit that the conviction is clearly bad with the omission of those words "for use for trade," which have been accidentally omitted. The hearing before the justices was a discussion, and the mistake appears to have arisen upon drawing up the conviction upon the 59th section. Under that section, possession being proved, such person shall be deemed, for the purposes of this Act, until the contrary is proved, to have such weight, &c., in his possession for use for trade. The justices had before them evidence which proved that these measures were in his possession for use for trade, and, assuming I satisfy the Court of that, my friend says even then you cannot amend the conviction; but I contend that this Court has power to amend it. The simple defect in this case is in describing the offence, not in the judgment.

The Assistant-Judge: We are of opinion that this order is defective upon the face of it, but we think, Mr. Poland, that, upon you satisfying the Court that this is a case in which the appellant used these measures for use for his trade, we shall allow you to amend the conviction in an ordinary way, that evidence may be given in the course of the case; but, if Mr. Besley wishes, we must have that evidence first, in order to amend the conviction before we proceed further.

Mr. Besley: I must not give up anything. Of course, if you are going to make a jurisdiction, I must state that I do not concur in that course, and my friend must prove the ground upon which he is going forward.

The Assistant-Judge: It is a very simple question, viz., Is this man in trade, and was the proof of his being in trade given to the magistrate?

Mr. Poland: Then I will call the Inspector of Weights and Measures.

Frederick Walter Tibbey (called, sworn, and examined by Mr. Poland) said he had been Inspector of Weights and Measures for the St. Marylebone Division since January, 1878.

Mr. Poland then read an order in Council, dated August 14, 1879, which founded the standards for apothecaries' measures. About three months after that order in Council was issued witness saw the defendant, who is a chemist and druggist keeping a shop at 6 Townshend Road, St. John's Wood, and told him that apothecaries' weights and measures would be under inspection the same as ordinary weights and measures, and that he should pay him an official visit to inspect his apothecaries' weights and measures at some future date. He gave that notice to all chemists and druggists in his district. He visited defendant's shop on October 19, 1880, and tested four measures on the dispensing-counter. [The measures were produced.] The witness

found the measures, in his judgment, inaccurate, and the defendant saw him test them.

The Assistant-Judge here asked if this evidence was not sufficient, but

Mr. Besley said he was not acquiescing in going on until the amendment was made.

The witness further said he gave similar evidence before the magistrates, that he told them defendant was a chemist and druggist, and that he used the measures for dispensing drugs. He believed the proceedings had been taken under the 25th section of the Act.

Cross-examined by Mr. Besley, the witness said he had not seen anything sold by the measurement of these particular glasses. These were in use on the dispensing-table, but would be used for individual drugs as well as compounded drugs. They could be used for the sale of drugs generally. He had not tested the measures in regard to the accuracy of their total capacity.

The Assistant-Judge and Mr. Poland hereupon agreed to amend the summons by adding the words "for use for his trade as a chemist," after the words "in his possession."

The Assistant-Judge: You know, Mr. Besley, if we have no jurisdiction to make this amendment you have your remedy.

Mr. Besley: Yes, my lord; I am carefully saving it.

The Assistant-Judge: You may; I am not at all afraid of the result.

Mr. Poland then briefly stated the case. After quoting from the Act, he said: I wish to state at once that there is no imputation of dishonesty at all against the defendant. He is a chemist of respectability.

The Assistant-Judge: He is adjudged to pay the sum of 6*d.* merely, because the magistrates did not consider he had committed an offence of a serious character.

Mr. Poland: More than that: he is a gentleman of respectability, who, of course, would not intentionally use a false measure, and I wish to state, further, that these measures were marked at York as correct. Therefore, he was under the full belief that when he was using these measures he was using measures which were correct, and, therefore, so far as he is concerned, there is not the slightest imputation upon him, and the magistrates only inflicted, as your Honour has pointed out, a nominal fine of 6*d.*, because they considered that the Act was one of very great importance, and that persons who carry on trade have the obligation cast upon them, by this statute, of ascertaining that the measures are, in fact, correct measures, and that they cannot, when measures have been in use a long time or a short time, and the Act has been infringed, turn round and say that what they did they did innocently, because the duty is thrown upon them, as traders, of ascertaining that the measures with which they supply articles to the public are correct according to this statute.

The Assistant-Judge: Is there any public office at which the standard measures are deposited which would enable the manufacturers of glass measures to compare what are manufactured with the standards?

Mr. Poland: Oh, yes; there is no difficulty whatever.

The Assistant-Judge: I should suppose so.

Mr. Poland then explained the inaccuracies which the inspector had found in these measures. The quantities dealt with were small, but you are dealing with what may be potent drugs. Then there is this also felt: that it is a mere question of price in the manufacture of glass. Of course, there may be variations, but after the thing is manufactured, in marking it it only requires care and skill. You must pay for care and skill, and if things are sold at a cheap rate, carelessly done, then mistakes occur; but if a higher price is charged for the extra care and attention required accurately to mark these measures, then chemists, like other people, must pay a little extra for these glass measures, which, no doubt, can be made with perfect accuracy. When I say with perfect accuracy, I mean within almost one-tenth of a minim. Of course, strict actual accuracy may be nearly impossible. Still you must deal with these things as a question of degree. Ordinary and proper care and proper skill being applied in marking these measures, are they so defective as to be within this Act of Parliament? Of course, it is in the interests of chemists themselves that it should be so if they dispense medicines and make them up with these glasses.

The measures were then shown and explained to the Bench by Mr. Poland.

The Assistant-Judge: Do you contend, Mr. Besley, that these measures are accurate measures according to the standard?

Mr. Besley: We contend that they are accurate measures.

The Assistant-Judge: The respondents, you know, will have to satisfy us that they are inaccurate measures. You meet that allegation by direct denial, and you say, We contend that they are accurate measures according to the standard.

Mr. Besley: With this reservation: accurate in the sense that it is impossible to be more accurate, and that the Board of Trade have themselves said they ought not to be found fault with.

The Assistant-Judge: That raises a grave question. If you say that they are accurate, or that they are inaccurate to such an inappreciable extent that the Board of Trade has permitted these standards to be used—

Mr. Besley: With regard to these four, they have put in writing the opinion that they ought not to be condemned.

The Assistant-Judge: Before or after these proceedings?

Mr. Besley: Pending these proceedings.

The Assistant-Judge: Pending the conviction before the magistrates?

Mr. Besley: After the first hearing, before the conviction took place—which may account for the 6*d.* The Board of Trade in writing declared that the ought not to be condemned—these four.

The Assistant-Judge: That might be a very strong fact in the case, deserving respectful consideration, but would not be conclusive.

Mr. Besley: It was after a communication from the magistrates asking the Board of Trade to let the officers test and report. That report was sent by the Board of Trade accompanied by a statement that they did not think that these particular four vessels ought to be condemned.

Mr. Poland said on behalf of the magistrates whom he represented he should not object to read the letter which had been sent by the Board of Trade, though he could not regard it as evidence, as the Board of Trade were not competent to determine the matter. Having read the letter,

The Assistant-Judge said: Certainly I cannot think that this letter bears out what Mr. Besley stated as to its effect, because Mr. Besley very broadly stated that in the letter of the Board of Trade the Board had expressed its opinion that these were proper measures, whereas their words indicate that, in their opinion, for apothecaries' purposes they are measures which should not be allowed.

Mr. Besley: Oh, no.

The Assistant-Judge: Let me read the words: "Although the differences"—that is, the differences pointed out in this statement of the magistrates—"Although the differences from the imperial standards, as shown in the accompanying statement, are larger than should be allowed in other forms of apothecaries' measures." This appellant is a chemist and druggist, a gentleman who dispenses medicine, that is to say, he makes up prescriptions: therefore, what you say is certainly not borne out.

Mr. Besley: I hope the Bench will read the letter. I say what I said is borne out. The English language cannot have two meanings.

The Assistant-Judge: I do not know that: it is sometimes very ambiguous.

Mr. Poland: In Acts of Parliament it generally has.

The Assistant-Judge: You made a broad statement to this effect—that the Board of Trade had written to the committing magistrates expressing their opinion that the impeached measures were sufficient and proper, whereas it appears that they expressed their opinion that for ordinary trade purposes they ought to be deemed so, but for the purposes of apothecaries' use they should not be allowed.

Mr. Besley: That is not so, my lord. That letter begins by apothecaries' measures. It says with regard to other measures, where there is not a difficulty of marking. The difficulty of marking does not exist in some apothecaries' measures, and then you require greater accuracy, but with regard to all cylindrical and conical glass measures, we say, for all ordinary purposes of a chemist's business they are absolutely correct, and we do not think you ought to condemn them.

Mr. Poland: That raises the difficulty, What is an inspector to do under this Act of Parliament? Of course one-tenth of a minim might be of no consequence whatever. It might be the different mode of testing. But when you have heard the ordinary inspector of measures for that parish, who finds they are defective, and the public analyst, who also finds they are defective, the Board of Trade testing their measurement, and they say it is defective, as stated in that table—and I shall show you that it is a mere question of price, that these glass measures are in fact made with perfect accuracy, and can be made with accuracy, then must not a chemist do what can be done, namely, get his measures as accurate as they can be made? Unless you are to draw a line at that, and to say that they must be as accurate as they can fairly and properly be made, what is an inspector to do? Then you leave it to the inspector in every case to say, "I do not think two minims difference is much; I shall not interfere." Another may say, on the other hand, "Four minims difference is not much. I shall not interfere." What is to be done? Is it not obvious that the Act of Parliament intended that they should be as accurate as they could be; of course, leaving the magistrates who deal with the facts of each particular case to say whether a penalty should be a substantial penalty of 5*l.*, or whether it should be, as in this case, 6*d.*; because the conviction is not for the purpose of punishing the defendant for any moral delinquency, but for the purpose of enforcing the law, and compelling him and the other chemists in future to take care that their measures are as accurate as they can fairly be made to be. That is the object of the conclusion. If this conviction is quashed it throws the whole thing at large; whereas if it is confirmed all that the defendant and other chemists must do will be to say, "We must go to first-class makers, and take care that we get our measures accurate, even if we have to pay a little more."

Frederick Walter Tibbey, re-called, examined by Mr. Mead, repeated in part his evidence. He said he had made the testing of weights and measures his study for some time back, and believed he had had the largest experience of any inspector in England. On October 19 last he went to appellant's shop and tested his measures as to their accuracy. Behind his counter he found the four measures produced here, and they were deficient. He tested them in the shop with ordinary water, not distilled water. Then he told appellant that he would test them at his office, and if he found them inaccurate he should have to take proceedings against him in the matter. Appellant said he bought them from the York Glass Company, and he thought that ought to justify him in using them, as they bore the mark of the York Glass Company. The witness then gave details of the manner of testing, and of the inaccuracies. Since then Dr. Winter Blyth had tested the measures alone and with him, and the testings, separately and independently, showed substantially and practically the same results. He had tested thousands of similar measures to those in question, and found them accurate.

Cross-examined by Mr. Besley: Witness said he had not seen glass measures such as these made, nor had he seen them graduated. The Board of Trade had given advice as to the bottom of the measures being taken in testing, but it was since this case was first heard that those instructions had been given to him. Previously he took the centre. He might have put his mark on incorrect measures, but would think it very improbable.

Mr. Besley: Is it within the bounds of possibility that you stamped measures as accurate which are more inaccurate than these?—I should think it was very doubtful; in fact, I should think it was almost an impossibility.

Does not the testing depend very much upon the exact power of the eye to test?—It depends greatly on the line of sight.

It depends greatly on the power of the operator to see the exact line of sight correctly?—Yes.

Then witness showed the means by which he tested these measures on a level surface with a telescope. Even with that assistance the most practised might vary in their results to a slight extent.

Mr. Besley: Now let us see whether you have not varied. Mr. Blyth is the gentleman who is to support your case?—I am sure I do not know.

Who is Mr. Blyth?—Dr. Winter Blyth is the medical officer of health.

Was he called at the hearing before the justices?—I believe he was.

Do you know that he was called on the part of the prosecution?—I know he gave some evidence before the magistrates. For instance, you are positive that Dr. Winter Blyth is incorrect, when, upon instrument No. 1, on the line with the 5, which you call a deficiency of 1 minim, he calls it a deficiency of .395.—No; I cannot say.

You have sworn it is 1 minim.—Yes.

If Dr. Winter Blyth has sworn and will swear again it is .395, do you mean to say he is not just as likely to be correct as you?—Dr. Winter Blyth ascertained his by weight.

Is not weight a more fair test than any other?—I should think so.

Weight is better than volume?—I should think so.

Now, having got the information, as you probably have, from Dr. Blyth, that it is not 1 minim but .395, what do you say now; is it .395 or 1 minim?—I say, by the pipette it is 1 minim, by my standard measure issued by the Board of Trade it is 1 minim.

Mr. Besley: Just the same again with regard to Mr. Chaney, the Board of Trade gentleman who sent his figures up to the magistrate. You know perfectly well that he, instead of making it 1 minim at that point, makes it .3.—Mr. Chaney obtained his result exactly in the same way as Dr. Blyth—by weight.

Then probably he may also be more accurate than you?—Certainly; it is by weight.

On the next you suggest there is a deficiency of 1½ minim?—Yes.

Dr. Blyth puts it at .34?—I am sure I do not know what he puts it at.

At .34. There is a wonderful difference there between you and Dr. Blyth, is there not?—There is a difference, and there is a difference between a minim and a grain.

Mr. Poland said he should call Dr. Blyth, and Mr. Besley said he would not ask any more questions on this point.

On further cross-examination the witness denied having told Dr. Redwood that the case on No. 3 measure was given up. A discussion also occurred between the counsel as to whether the order in Council referred to minim quantities between 10, 20, 30, 40, 50, and 60. The glasses were marked with lines between, but not with figures.

Dr. Alexander Winter Blyth, sworn, and examined by Mr. Poland, said he was medical officer of health for Maylebone, public analyst, F.C.S., and vice-president of the Society of Public Analysts. After detailing his examination of the measures, which, he said, had been taken with every precaution, the witness, in answer to the Assistant-Judge, said the markings could be accurately graduated to one-tenth of a minim.

The Assistant-Judge: We are now approximating to the question we may have to determine. It is only for Mr. Besley to show otherwise; but if this gentleman's opinion is correct as an expert, we can fairly allow of differences of measurement by different persons to the extent of one-tenth of a minim.

Mr. Poland: In dispensing drugs it is material that the measure should be as nearly as possible accurate.—I consider so, certainly.

The Assistant-Judge: In dispensing drugs you require accuracy in such measures.—Yes.

The Assistant-Judge: The Act of Parliament does, whether he does or not, and so does the order in Council.

Mr. Poland: Take No. 1. You consider 2 minims deficiency in 15 a very material defect.—I do, because there are many medicines in which 2 minims is a therapeutic dose. You would get a certain effect with a dose of 2 minims; therefore, I consider it a serious error.

Even 1 minim, is that a serious error?—I think so, certainly.

Cross-examined by Mr. Besley: When before the justices witness gave results by weight, which he considered more accurate than those taken by measure. He believed those figures agreed very fairly with these, but he had not any copy of them with him. On a report being shown him which showed a deficiency of .67 in 15 minims, whereas he had in his latter statement shown a deficiency of 2 minims, witness said he thought there must have been a misprint, and that it should have read 1.67. This proved to be the case when a copy of his notes was produced.

Mr. Poland. In another case a discrepancy between witness and the inspector appeared at 5 minims, the inspector making it 1 minim and witness 2 minims deficiency. That was, he admitted, a considerable discrepancy. Other discrepancies were pointed out and discussed at length. The witness did not know exactly how the graduations were performed, but he knew how he should perform them. He most decidedly did not agree with the Board of Trade that these measures might be accepted as correct.

The Assistant-Judge asked Dr. Blyth whether he used the same pipette for testing as the inspector had used.—He had used one given to him by the inspector, but he did not know if it was the same.

The inspector, recalled, believed it was, but, as he had two sets, could not quite swear to it.

The Assistant-Judge said there might be some difference in the pipettes supplied by the Board of Trade.

Mr. Besley said they should offer affirmative evidence that there was.

Mr. Besley asked if Dr. Blyth, having tested with the Board of Trade's pipettes, and also by weight, had found inaccuracies in the former?—Dr. Blyth said he could not answer that question as he had not tested the pipettes. On this

The Assistant-Judge remarked that the alleged inaccurate measures of the appellant ought surely to have been tested by one recognised standard. If they had to consider which standards were accurate and which inaccurate, how many issues had they to try? It seemed to him that unless his measures were examined by a positive standard, the appellant had been placed in a great difficulty which he would be slow to believe the law had intended him to be placed in.

Mr. Besley pointed out that he should prove that the measures had been verified and marked by the York inspector as correct, and that, according to the statute, a measured stamped and verified at York might be used all over England.

Mr. Poland said the 45th section of the Act made it a legal measure throughout the United Kingdom *unless found to be false or unjust*.

The Assistant-Judge said Mr. Besley might possibly argue that on this section the user of a false measure would not be liable if it had been issued by an inspector until it was found by proper authority to be false.

Mr. Besley said that argument had not occurred so potently to his mind; he had the substance of it with regard to the real meaning of the statute.

The Assistant-Judge said that assuming for a moment that this measure had been issued by the inspector at York, it was, according to the statute, a legal measure throughout the kingdom unless found to be false. The question arose, What was the meaning of the word "found"? It might be that a reasonable interpretation would be a notice by a competent authority that the measure was false. If so this gentleman might be in peril if he continued to use the measure, but the Court would have to pause before they convicted him of having infringed the Act for using it before it had been found false.

Mr. Poland argued that the inspector could not "find" the measure false; that was for the magistrates to do.

The Assistant-Judge said that would be still more favourable for the appellant. It was not a false measure till they had found it to be so.

Mr. Poland asked how could they "find" it to be false except by convicting the defendant? Should they dismiss the summons?

The Assistant-Judge said it might be a novel proceeding.

Mr. Poland argued that the section which said that a measure duly stamped was legal throughout the United Kingdom went on to add, "shall not be liable to be re-stamped because used in any place other than that in which it was originally stamped."

The Assistant-Judge said the words which fell from him would, perhaps, have had more force if the statute had said "until found," and not "unless found." But it was clear that the statute contemplated a subsequent finding. It was surely a reasonable construction of the Act that the prosecution should show that before this gentleman incurred

penalties for using this measure it had been "found" unjust.

Mr. Poland and the Assistant-Judge continued this argument for a considerable time. Mr. Poland urged that the machinery of the Act showed that the inspector was required to examine the measures, and to submit to the magistrates those he found inaccurate, although they might be stamped. It then became a question of fact for the magistrates. If they found that the measures were false it might be quite right that they should inflict a merely nominal penalty, but they could not "find" the measures to be false without a conviction.

Mr. Besley urged that the machinery of the Act showed that the stamping was intended to be a protection to the trade. There were provisions for the rectification of the standards every five years, against negligence by the inspectors, and against imitations of official marks.

A difference of opinion also arose on the words "false or unjust," Mr. Poland maintaining that "false" meant not true, inaccurate, the Assistant-Judge saying it might be argued with the word "unjust" to mean fraudulent.

The Court, foreseeing that it would possibly be necessary to state a case, decided to hear further facts.

Mr. Peter Harland McIntyre, manufacturer of graduated glass measures, of Kirby Street, Hatton Garden, was next called on behalf of the prosecution. His evidence was to the effect that it was quite possible to mark drachm measures accurately within half a minim. Before the Act passed they used to measure the 5 minim line, the 10, the 20, 30, 40, 50, 60 minim lines, but guess at the intermediate lines. Now they measured all. They charged a little more.

Thomas Tucker and Frederick France, glass engravers, also gave evidence that it was quite possible to graduate glass minim measures to within the fraction of a drop. In cross-examination, all said they assumed their markings were accurate because they passed various inspectors.

For the appellant Mr. Besley called Thomas Calvert, Inspector of Weights and Measures for York, who had filled that position for nearly 40 years. He swore that the measures had been verified and marked by him.

Cross-examined by Mr. Poland, the witness said he first tested glass measures about June, 1880. He had no instructions as to testing them. The York Glass Company engraved the greater part of the work, and he completed it with a diamond when he had found the measures accurate. If inaccurate at any graduation he scratched through the line and put it aside. The company paid him 1s. per dozen for testing, and he accounted for that to the corporation. He tested some 300 to 400 a week for the company. A good many were rejected.

The Assistant-Judge said it was well that the public should know the machinery by which they were to be protected from errors, which required the use of the finest instruments with scrupulous accuracy.

Mr. Hutchinson, late managing director of the York Glass Company (Limited), confirmed the evidence of the last witness. He also explained the precautions taken in the course of the manufacture of the measures to ensure general accuracy, but he believed it was utterly impossible to ensure absolute and scientific accuracy. He was cross examined by Mr. Poland on this point, but he would not guarantee that, with any amount of time and skill, it would be possible to guarantee absolute accuracy.

The Assistant-Judge declined to hear evidence as to the question of these measures, comparing them with the real Government standard.

Mr. Poland contended that by quashing the conviction the Court would say in effect that a man would commit no offence by using false and unjust measures, if they only bore the stamp of an inspector, no matter how incompetent he might be.

After Mr. Poland had addressed the Court at some length, the Assistant-Judge recalled Mr. Tibbey, and asked him if after testing the measures in the shop he took them away. Mr. Tibbey said he did, and that the defendant had not used them afterwards.

After consultation with the magistrates the Assistant-Judge said: An important and somewhat difficult question is raised in this case. After following the arguments of the learned counsel, on due consideration, we are of opinion that this conviction should be quashed, there being, in our

opinion, no proof that the appellant had in his possession for use in his trade a false or unjust measure, within the meaning of the 25th clause of the Act of Parliament. The measures in question, whether they be accurate according to the imperial standards or not, bear the stamp of the Government Inspector by whom they were first issued as accurate, and there is no proof that they were known by the appellant to be inaccurate, or that they were known to be so at any time while he was in possession of them. For these reasons we think the convictions must be quashed.

Mr. Poland: Will the Court grant a case on that point?

The Assistant-Judge: Yes; I will give the precise words of our decision, as you see we put it on rather different grounds to those you surmised we should base it upon.

Mr. Poland: Only one point of law arises that has been suggested.

The Assistant-Judge: We have carefully guarded ourselves from any expression of what our opinion might be, after hearing the evidence in contradiction, as to the accuracy of the measures in question. Even if we did grant a case, and the Court above thought we should inquire into that, and, supposing the appellant did not know that it was inaccurate, it would be for the Court then to send the case back for further inquiry. At present I do not think the time of the Court ought to be occupied with it. That will be distinctly understood.

Mr. Poland: Then the Court refuse a case?

The Assistant-Judge: No; I am willing to grant a case, but I point out that, as our judgment is based on the construction of that section, should the Court above think that, even although the defendant may not have known that this was an inaccurate measure, still he is liable, then they would send this case back to us to ascertain whether the measures were accurate or not. But we think we ought not to be troubled with that question.

Mr. Poland: Then will it have to come back to this Court.

The Assistant-Judge: Then, as I said before, let it come back to us.

Mr. Poland: Will the Court above deal with the question until the whole appeal is disposed of?

The Assistant-Judge: Certainly, upon that finding.

Mr. Poland: I am quite content.

Mr. Besley: Will it be convenient, my lord, at the same time to put in the case the point I raised at the commencement of the hearing of the appeal with reference to your powers of amendment.

The Assistant-Judge: I should not grant you a case on that. I have no doubt whatever of the power. I refuse a case on that.

Mr. Besley: I did not know when you were stating the one whether you would state the other.

The Assistant-Judge: No; the conviction is before us as amended on the application of Mr. Poland, and we grant the case. Our judgment will sufficiently express that. It proceeds on the two questions. On the meaning of the word "false," and on the further fact that this was a measure issued by an inspector, and that it was not found to be false or known to the appellant to be false, or that it was ever used by him after he had knowledge that it was false.

Mr. Besley: I do not know whether it is necessary for me to ask the Court to make an order for costs.

Mr. Poland: It is not usual to give an order for costs against justices.

Mr. Besley: Against Tibbey then.

The Assistant-Judge: No, I am quite sure the magistrates would not give it.

Mr. Besley: Would you reserve the question?

The Assistant-Judge: No; as far as this inquiry to-day is concerned we do not give costs. If Mr. Poland desires a case for the consideration of the Court above he shall have a case which will sufficiently express the grounds of our judgment.

Mr. Poland: Then, my lord, about the measures; what is to be done with them?

The Assistant-Judge: If you will allow me to suggest, gentlemen, I think the four measures should remain here locked up until the case is disposed of.

Mr. Poland: Very well, my lord.

Mr. Besley: I have no objection.

PROSECUTION FOR THE SALE OF UNSTAMPED PATENTS.

At the Liverpool Police Court, on January 21, William Jones, chemist, 92 and 344 Great Howard Street, was charged by the Inland Revenue with selling patent medicines in two instances without the necessary stamp being affixed or the *ad valorem* duty paid. On December 10 an Inland Revenue officer visited defendant's shop at 92 Great Howard Street, and bought a packet and box of "Jones's Pectoral Cough Lozenges," a "medicament for the prevention, cure, and relief of disorders and complaints incident to and affecting the human body." On the same day the shop of defendant at 344 Great Howard Street was visited, and a bottle, containing a preparation called "Jones's Balsam of Horehound, Tolu, and Linseed," was obtained. The preparation was advertised to effect the same ends as in the other instance. Mr. Powell, one of the Government solicitors, prosecuted on behalf of the Inland Revenue. Defendant pleaded guilty, but said the medicines were prepared by his assistants and sold without his knowledge. Mr. Powell said he had been instructed to inform the court that in 1874 the defendant was caught in a similar scrape, and the Board then thought it would be sufficient to let the defendant off with a caution against a repetition of the offence. In 1876, three parcels of unstamped medicine were bought at these shops, and the Board, using their powers, made a compromise with the defendant, by which he paid a penalty of 10*l*. At that time he was called upon to state anything he could in mitigation of the penalty, and he submitted the very same defence that he now made. In consequence of the repetition of the offence at the end of last year, the Board, instead of using their powers to compromise the matter, thought it right that it should be brought into Court, as they considered the defendant had had sufficient caution. They could hardly credit the excuse that had been set up again, and he therefore asked that an ample penalty should be inflicted. Defendant was in a good position, and had three shops in different parts of the city, and the Board thought it desirable that an example should be made. Mr. Raffles, after some conversation, fined defendant 5*l*. and costs in each case.

ACTION UNDER THE PHARMACY ACT.

On February 1, at the Liverpool County Court, Mr. J. F. Collier being the presiding judge, an action was heard by which the Pharmaceutical Society sought, under the Pharmacy Act, to recover from Mr. Alfred James Wright 5*l*., as a penalty for using the title of druggist while he was not registered. Mr. Hull (of Messrs. Stone, Fletcher & Hull) represented the plaintiffs, and Mr. Wills Harper appeared for the defendant. A man named Lynch, who was called on behalf of the Society, said that on the 14th ult. he bought a packet of Epsom salts at a shop in South Castle Street, over which was exhibited a sign bearing the following:—"Knowles & Wright, shipping and export druggists." The defendant, it was also shown, was not registered in accordance with the provisions of the Act. Mr. Harper pointed out that the defendant had no interest or partnership in the business, which was transferred from him to Mr. Knowles towards the close of 1879. Since that time he had been nothing more than an assistant in the shop, being in receipt of a salary and commission. Notwithstanding this the sign had not been altered. In support of this statement Mr. Harper put the defendant himself into the box. The Judge expressed his inability to see how the defendant could under the circumstances escape the penalty, he having clearly used his name as a druggist. He (Mr. Collier) therefore gave judgment for the sum claimed, with costs.

LIABILITIES OF EMPLOYERS.

An interesting case was decided in the Glasgow Sheriff Court on January 14. A butcher leased a shop for a year, and employed a salesman. No name was placed above the shop. Purchases were made in the dead meat market by the butcher, or by him and his servant, but generally by the servant alone, and the goods were invoiced to the master. At the end of six months the butcher found that the business did not succeed well, so he sublet the premises to his salesman, and handed over the business to him. No notice of the change of hands was given to anyone, no name

was put over the door, and the salesman continued to purchase meat, which was invoiced to his former master. Payments were made more irregularly than before, but this was accounted for by the master's absence at the coast. Finally the meat vendors prosecuted the original owner of the business for the value of goods supplied. Judgment was given in their favour, on the grounds that the defendant had tacitly given his salesman authority to make purchases on his behalf, and had entirely failed to take any steps to make known the change of proprietary.

BANKRUPTCIES AND LIQUIDATIONS.

W. B. BLADES, Chemist, the Grove, Hammersmith.

THE adjudication in this case was made on December 3, the act of bankruptcy being the departure of the bankrupt from his dwelling-house on September 21, with the intent, as alleged, of defeating and delaying his creditors; and the meeting for public examination was held on January 19 before Mr. Registrar Murray. Neither the bankrupt nor the trustee being in attendance, his Honour said that all he could do was to adjourn the proceedings *sine die*, with liberty to either party to apply.

JOHN BOWING, Analytical Chemist, Charlton.

A MEETING for further examination was held in this case on January 19, before Mr. Registrar Murray. The bankrupt returned his liabilities at 746*l.*, debts fully secured 700*l.*, and debts partly secured 252*l.* 10*s.* (the securities being valued at 175*l.*); assets 3,120*l.* The following appeared to be the principal unsecured creditors:—

	£	s.	d.
Allen, W. 67 Upper Thames Street..	104	9	4
Bullen, F. F., 6 Guildhall Chambers ..	105	0	0
Bonthron, J., 106 Regent St. ee ..	72	12	5
Haierow, J. B., John Street, Adelphi ..	52	10	0
Nissen & Arnold, 41 Mark Lane ..	12	10	0
Snell & Co., George Street, E.C. ..	76	9	11
Troughton, J. W., Whitaker Terrace, S.E.	48	12	6
White & Brothers, 85 Gracechurch Street ..	50	0	0

Fully Secured.

Hadley, —, care of Lane & Andrews, Essex Street, W.C.	300	0	0
Lane & Andrews, Essex Street, W.C. ..	400	0	0

Partly Secured.

Manlove, Allott & Fryer, Nottingham ..	52	10	0
Stackpole, —, 4 Pall Mall ..	50	0	0
The St. George's Advance Association ..	150	0	0

The necessary notices not having been filed, an adjournment was ordered. The bankrupt has since passed his examination.

F. WRIGHT, Chemist and Druggist, 329 Kennington Road.

THIS failure occurred in July, 1875, and the trustee applied to the Court on January 19 for an order closing the bankruptcy. He reported that about 18*l.* only had been received, and that consequently no dividend could be paid, Mr. Registrar Murray made the order.

Pharmaceutical Chemistry.

PRESERVATION OF SOLUTION OF IODIDE OF IRON.

MR. P. CARLES, in the *Bulletin de la Société de Pharmacie de Bordeaux*, passes in review the several methods which have been proposed for the preservation of solution of iodide of iron.

Exposure to the direct rays of the sun has been recommended on the ground that the solar rays cause the sesquiodide to return to the state of protiodide, while the free iodide is transformed into hydriodic acid. The theory is discussible, and the practice requires that the sun should be at our disposition. Results have been stated to be inconstant.

Boudet recommends the addition of sugar and gum to the solution. This limits the use of the solution to the preparation of the syrup.

Parisel puts into a bottle the exact proportions of ferrous sulphate, potassium iodide, and water, the bottle being quite full. Agitate and preserve for use. In this process the double decomposition is never quite complete, and it cannot be recommended.

Hornecastle and Jeannel add tartaric acid and honey to the solution, that is, they add an essentially fermentible syrup to the solution, and this soon communicates that property to the syrups or other solutions with which it is mixed.

Telhirner and Mayer add hyposulphite of soda, but this salt is only certain if added in sufficiently fair quantity, and it then causes eruptions of sulphurous acid.

Judge prefers hypophosphorous acid, but this is a product rare in shops, and as it often contains baryta, and may itself have a marked therapeutic action, it cannot be adopted with confidence.

Deschamps and Hurant-Moutillard advise that the solution be more concentrated, and that iron filings be added to absorb the iodine. The addition of the iron filings is not sufficient, however, as decomposition will take place at the surface. The addition of an iron wire through the liquid will counteract this, but the wire must be absolutely clean, and the bottle must not be frequently opened.

Mr. Carles considered that what was wanted was a body of the same nature as the ferrous salt, insoluble, and with greater attraction for oxygen than the iodide itself, for without free oxygen there can be no decomposition of the iodide.

This body he has found in hydrated sulphide of iron. The addition of a few centigrammes of this salt to a solution of iodide of iron will preserve it indefinitely. Mr. Carles has some samples made in March, 1878, as colourless and perfect as on the day when they were made. Further, the addition of some of the same sulphide to a discoloured solution will, after agitation, restore the liquor and remove the discoloration.

The sulphide is completely insoluble, and in reducing the yellow ferrous solutions an equally insoluble oxyiodide of iron is formed. Consequently, no foreign substance can be added to the solution. The sulphide is prepared by precipitating a solution of iron by hydrosulphide of ammonium. Wash the precipitate by decantation several times in boiling water, collect on a filter, and preserve in a well-stopped bottle in a moist condition.

Mr. Carles prepares the solution thus:—

	Grammes
Iron filings, fine and unoxidised ..	8
Distilled water ..	35
Iodine ..	27

Add the iodine gradually, and when the solution has become colourless, filter to remove the excess of iron and carbon which the metal always contains. Then introduce about 2 grammes of the paste of sulphide of iron.

The syrup is liable to decomposition on account of the alkaline salts sometimes contained in the sugar or in the water with which it is made. These may be counteracted, and the taste of the syrup, if anything, improved by the addition of 1 gramme of citric acid in 1,300 grammes of syrup.

LIQUID EXTRACT OF ERGOT.

M. YVON, in the *Journal de Pharm. et de Chem.*, recommends the following process:—Grind 1 kilo. of ergot and pack in a percolator. Add 3 kilos. of distilled water, in which is contained 1 gramme of tartaric acid. Macerate for 12 hours, then open the tap of the percolator, and draw off drop by drop. Warm the percolate in a sand-bath, and it will coagulate to the extent of about 2 per 1,000. Separate the coagulum by filtering through fine linen, and evaporate the filtrate to the consistence of a thin syrup. Meanwhile, percolate more distilled water through the ergot. If the percolation be effectively carried on, about 6 kilos. of water altogether should suffice to exhaust it. Proceed as before with the percolate. The whole of the water is reduced by evaporation to about 600 grammes. Add 2 grammes of carbonate of lime, then enough alcohol at 90 per cent. to make with the water alcohol of 70 per cent., say about

700 grammes. Agitate briskly. An abundant coagulum will collect at the bottom of the vessel, which may be removed by filtration. Then distil off the alcohol at as low a temperature as possible, preferably in vacuo. Pour the aqueous residue into a tared vessel, add 300 grammes of cherry laurel water, and sufficient distilled water to make up 1 kilo. Agitate with 50 grammes of well-washed animal charcoal and filter. After filtration dissolve in the liquid $1\frac{1}{2}$ gramme of salicylic acid, and set aside in a cool place to deposit.

DETECTION OF FUCHSINE AND CERTAIN OTHER ANILINE COLOURS IN WINE.

In the *Berichte der Deutschen Chem. Gesellschaft*, 13ter Jahrgang, No. 19, January 10, 1881, F. König describes a very simple method for testing wine or any other liquid for fuchsine, by means of which mere traces of the colour may be detected. The method is based upon the affinity of fuchsine for wool, the ready decomposition of the latter by caustic potash, and the solubility of resaniline in ether.

The author manipulates with wine in the following way:—

About 50 c.c. of the wine to be tested are treated with excess of ammonia until the red colour passes into a dirty green. About half a gramme of clean white wool is then immersed in the liquid, and the whole boiled until the entire quantity of alcohol and ammonia has evaporated, the green colour gradually passing into a brownish red. This treatment suffices to destroy the colour of wine, while fuchsine or other aniline colours become fixed upon the wool. The wool is then taken out of the liquid, washed with water, and wrung. In the case of samples of wine containing a considerable quantity of fuchsine, the wool becomes at once strongly coloured; but, as even a strongly-coloured, unadulterated red wine imparts to the wool a reddish tinge, to avoid error the piece of wool must be put into a test-tube, and moistened therein with a solution of pure caustic potash containing about one-eighth to one-tenth of the dry alkali. The test-tube is then carefully heated, and continually shaken until the wool has dissolved to a brown liquid. Upon cooling the solution is first treated with about half its volume of pure alcohol, upon which an equal volume of ether is then poured so as to form a layer above the alcohol. The whole is then shaken up, at first gently, and then more vigorously, and after a few seconds a layer of ether, which contains some alcohol and all the resaniline present in the wine, forms above the brown liquid. This is either poured off or, preferably, removed by a separatory funnel, and treated in a test-tube with a drop of acetic acid, whereupon, if the wine operated on contained even a mere trace of fuchsine, a red tinge is produced. The delicacy of the method is chiefly due to the concentration of the fuchsine of 50 c.c. of wine in a few c.c. of potash solution, from which it is easily transferred to the alcoholic ether. The true colouring matter of wine is destroyed by the above process.

In the case of red wine containing 1 m.g. fuchsine per litre the ether assumes an intense red colour, and even a wine containing only 0.04 mg. per litre (a dilution of fuchsine which is scarcely visible in a considerable layer of the water containing the colour in this proportion) imparts to the ether a most decided red tinge, which cannot be mistaken, the colouring matter of even the darkest red wine not passing over into the ether solution. To detect such a dilute fuchsine solution the only way hitherto available was by evaporating a considerable quantity of the wine to be tested, and examining the residue.

Certain other aniline colours, such as violet and blue, admit of detection in the same way.

By working according to the author's method with known volumes, prepared by dissolving fuchsine in red wine, a scale may be prepared by means of which approximate quantitative results may be obtained.

DIALYSIS IN THE MANUFACTURE OF IODINE.

IODINE manufacturers cannot get regular supplies of seaweed for their ovens, but find themselves compelled at times to buy far more than they can dry or carbonise before fermentation sets in. The liquid which drains from the fermenting heaps contains much iodine, with a large proportion

of organic substances. Hitherto this liquid has been run into the carbonising ovens and reduced to ash with the seaweed. But J. Pellioux and E. Allary have adopted a new plan, which they describe in the *Bulletin de la Société de Pharmacie de Paris*. The liquid is carefully collected, concentrated by the waste heat of the retorts, and run into Dubrunfaut's dialysers. A solution of crystalloids is thus obtained from which iodine can be made without incineration. By this method 9 kilos. of iodine are obtained from each cubic metre of raw juice, against 1.3 kilo. obtained by the old incineration process.

QUEBRACHINE.†

In the *Berliner Klinische Wochenschrift*, No. 40 (1880), it was pointed out that the bark of *Aspidosperma quebracho* acts in many cases as an antasthmatic, but the author of this paper, O. Hess, not being able to attribute this action to the alkaloid found by Fraud in the bark, and called by him "aspidospermine," set to work to examine the bark more closely, and has found in it, besides 0.17 per cent. aspidospermine, as much as 0.28 per cent. of a new alkaloid, which he terms quebrachine.

Quebrachine is but slightly soluble in cold alcohol, but hot alcohol dissolves it more readily, and it crystallises from a solution in small white anhydrous prisms. It is difficultly soluble in ether. Quebrachine melts at 214° to 216° C. under partial decomposition. Its chemical composition may be represented by the formula $C_{21}H_{22}N_2O_3$.

Quebrachine dissolves in pure concentrated sulphuric acid with a bluish tinge, which becomes darker upon standing. When lead peroxide or molybdic acid is present the coloration is quite instantaneous and very intense. A crystal of potassium bichromate dropped into a solution of quebrachine in sulphuric acid produces the same effect.

Boiled with a solution of perchloric acid quebrachine yields, like strychnine and curarine, a yellow decoction, but, although very poisonous, 0.04 g. being sufficient to kill a small rabbit, Penzoldt finds that its physiological action is not identical with strychnine.

Quebrachine is a strong vegetable base. Its alcoholic solution turns red litmus paper blue, and it completely neutralises even strong acids.

The author has formed several salts of the base, some of which differ from the corresponding salts of aspidospermine by being less easily soluble in water.

The author reserves further details of his investigations for a future paper.

A METHOD OF DEPOSITING SILVER FOR THE PREPARATION OF PURE SILVER NITRATE.*

THE preparation of nitrate of silver is neglected in many pharmacies, partly from fear of loss and partly on account of the trouble thereby involved. The author of this paper, P. Solthier, apothecary in Soyerswerda, considers none of the known and usually employed methods of preparing the salt to be practically useful; the ordinary fusion method, on account of the liability of contamination of the silver nitrate with copper; the method of the Pharm. Bor., on account of the trouble it involves; the method in Duflos's "Apothecaries' Book," whereby pure silver is precipitated by means of green vitriol, on account of the inconvenient dimensions of the vessels required, as well as for the reason that some silver is lost in the process. The most profitable method up to the present, that of precipitating silver as chloride and reducing with zinc, is also rejected by the author, on account of the large quantity of distilled water required, which renders this method too expensive for small pharmacies.

The author's method of preparing silver nitrate on an industrial scale, and which he considers to be the cheapest and quickest ever proposed, and able to be carried out with the least apparatus, is as follows:—

The silver alloy is put into a flask and dissolved with as small a quantity as possible of common concentrated nitric acid, the process being conducted with exclusion of light. The solution is then precipitated, likewise with exclusion of

* *Berichte der Deutschen Chem. Gesellschaft*, 13ter Jahrgang, No. 19, January 10, 1881.

† *Archiv. de Pharmacie*, December, 1880.

light, with just as much ordinary hydrochloric acid (free from arsenic) as is necessary to effect complete precipitation, the precipitation being assisted by frequent shaking. After allowing the precipitate to settle the supernatant liquid is poured off, and the silver chloride, without washing, dissolved in ammonia, the solution being accelerated by gently heating. The solution is then filtered, under exclusion of light, into a tall cylinder, furnished with a cork, in which a riband of copper foil is inserted reaching to the bottom of the cylinder, and must, after charging the latter, project above the level of the solution to be reduced. The filter is then washed with a little ammonia, the cylinder closed, and shaken at intervals to accelerate the reduction. When a concentrated solution is acted upon the reduction is very rapid, much quicker than when zinc is the reducing agent, and is complete when the blue copper solution has become quite clear, and the copper band is free from adhering particles of reduced silver. The reduced silver is then thrown upon a filter, washed with distilled water, and dissolved in pure nitric acid, for the preparation of the crystallised or the fused salt.

It will be readily seen that by the above method the alloys and impurities of silver are completely removed during the process itself. Gold, if present, would be removed during the first solution. Other metals of possible occurrence, such as lead, bismuth, antimony, tin, and iron (from the hydrochloric acid), would be deposited as hydrated oxides by the ammonia added to dissolve the silver chloride. Possible traces of copper or zinc would be retained in solution by the ammonia after reduction; while arsenic, if present in the original solution, would be got rid of by washing the silver chloride before reduction.

The author further considers his method available for quantitative determinations of alloys of silver.

SIUM LONGIFOLIUM AND LATIFOLIUM AND VALERIANA OFFICINALIS.

In the number of the *Archiv der Pharmacie* for December, 1880, C. Bernbeck, apothecary in Gernersheim, points out the possible danger of confounding the roots of *Sium longifolium*, and a variety of it, *Sium latifolium*, with the root of *Valeriana officinalis*.

The author states that for some years he has noticed parcels of valerian roots contaminated with some other root strikingly resembling valerian, the true nature of which remained dark to him for some time, until upon the occasion of a botanical tour he found that the false root accompanying the valerian was the poisonous *Sium longifolium*, which occurs in the low land of the Upper Rhine district as a variety of *Sium latifolium*, where it is often found growing on the borders of ponds and ditches, as well as upon the sides of old marshes, and, not being described in any special flora, amazes the botanist who comes across it for the first time.

Both varieties, according as they are compelled to grow in dry or moist ground, change reciprocally one into the other. Since 1874 the low land of the Upper Rhine district has been subject to periodical annual inundations, which has afforded the author an opportunity of following this transformation.

Valeriana officinalis is likewise affected by the locality in which it grows, and since the roots are gathered at a season when such characteristics as would be afforded by stem and leaf are not visible, the resemblance of the roots of *Sium latifolium* and *Valeriana officinalis* is often so close as to render a possibility of the one being mistaken for the other.

Personalities.

MR. CHARLES HEISCH, F.C.S., has been elected president of the Society of Public Analysts, vice Dr. Muter, who had filled the position for two successive years.

MR. FRANK S. STARK, 3 Featherstone Buildings, Holborn, lately partner in the firm of George Salter & Co., asks us to make clear that neither Mr. Salter nor himself has the right to assume successorship to the late firm. Both are now carrying on business independently. Our paragraph last month made it appear that Mr. Salter had taken the old concern.

AT A RECENT Inns of Court Lecture examination the prize for the highest marks in all subjects was obtained by Mr. R. W. Giles, late in business as a pharmaceutical chemist at Clifton.

WE ARE INFORMED that the principals of the Westminster College (Messrs. Wills and Wootton) have decided not to hold a dinner this year, but to substitute for it an excursion to Brighton on May 24.

THE SALE OF FOOD AND DRUGS ACT.—Dr. Ebenczer Evans has been appointed public analyst for the county of Anglesey, at one guinea per analysis, vice Owen, resigned; Mr. James Napier, F.C.S., has been appointed public analyst for the borough of Sudbury, at five guineas per annum and fees; Mr. A. W. Stokes, F.C.S., has been appointed public analyst for the parish of St. Matthew, Bethnal Green, vice Tidy, resigned.



VIN SANTÉ.

THIS prize medal beverage, non alcoholic, differs from others in that it contains *hypophosphites* in the most soluble form, including iron, but the mawkish flavour of the latter is entirely covered. It is put up both sweet and dry, like champagne, and the use of the dry will be obvious where it is desirable not to use sugar in diet, in cases of diabetes, &c. It is highly spoken of by medical men and chemists, and already has a large sale.

LIEBE'S SOLUBLE LEGUMINOSE.

MR. J. PAUL LIEBE, of Dresden, the manufacturer of Liebig's soluble food for infants, has prepared a specially-cooked powder from the husked grains of pulses, offering in a soluble and easily-assimilated form the nutritious properties of the vegetable albumen. The leguminose is readily prepared as a soup of great nutritious value. The lentil taste is not by any means so marked in this as in many of the modern manipulations of the bean, but in the form of soup it has an almost too savourless character. This can, however, be remedied by the addition of some seasoning. As tastes vary so widely it is perhaps best to supply the base for the soup without the addition of any flavouring material, but most persons will find that some adjunct of the kind is desirable.

SAFETY CHECKS.

MR. A. A. NESBIT, F.C.S., has patented a device for preventing the fraudulent alteration of checks. He proposes to tint checks with a dye which is affected by both acids and alkalis, but which takes one colour in acids and another in alkalis. He then prints upon the document partly in an acid and partly in an alkaline ink, so that the characters, designs, lines, &c., are apparent only in virtue of their respective alkalinity or acidity. If a forger moistens such a document with a dilute acid with a view to discharge any part of the writing, the colour takes the acid tint, and the words, lines, or other design disappear, and if it is placed in an alkaline solution the whole becomes alkaline, so that the words, &c., are not restored. If an alkaline solution were applied first the inscription would still disappear, and could not be revived by the subsequent application of an acid.

Even if a perfectly neutral solvent were found capable of removing writing ink, it would still be impossible to alter such a cheque, as enough of the acid or of the alkaline ink might be used to more than neutralise the other ink, so that on immersing even in pure water the design would be destroyed. The idea is ingeniously simple and seems thoroughly effective.

VANILLA SUGAR.

MESSRS. BURGOYNE, BURIDGES & Co. are offering a combination of vanilline with sugar, put up in 1s. 6d. and 2s. 6d. bottles, or in bulk, as a substitute for the more expensive natural vanilla. There is no traceable distinction in flavour, and the new product will, no doubt, be regarded as more convenient for flavouring than the use of the sticks or the beans. The vanilla sugar is not liable to mouldiness nor deterioration of any kind, and in this respect also seems preferable to the natural product.

Trade Notes.

THE DEPÔT for Henri Nestlé's milk food has been removed from 7 Barbican to 9 Snow Hill.

* *

WE ARE INFORMED that all the 1½ shares in the Chemists' Aërated Waters Association (Limited) are now taken up, and that only 10½ shares, which may be fully or partially paid up, are now to be had. The company's business in December, 1880, was exactly double that of December, 1879.

* *

THE AUTHORITIES at Alfred Hospital, Sydney, have ordered silicated carbon filters for use in the various wards throughout the building. The filters are similar to those used in the new Royal Infirmary, Edinburgh, which were also supplied by the Silicated Carbon Filter Company, of Battersea.

* *

IN AN ADVERTISEMENT of the Daughter of the late John Bond's Marking-ink, which appeared in our last number, the *fac-simile* of the label was printed in red. Mr. Hickisson, the proprietor, wishes it to be understood that this was an error of ours. His labels are, always have been, and no doubt ever will be, the colours of truth, honour, and quality—straightforward black and white.

* *

WE HAVE RECEIVED a copy of the enlarged and revised issue of Messrs. Evans, Sons & Co.'s Liverpool Price Current of Druggists' Sundries, Proprietary Articles, and Patent Medicines. This enterprising firm are also sole proprietors of Savar's specialties. The handsome style in which these articles are put up and the good value given will enable chemists to cope with outside competition, the supply of these specialties being, we are informed, confined to the trade. We have also received samples of shilling and six-penny floral pomades: these are beautifully labelled, exquisitely perfumed, and, we feel convinced, will do credit to any establishment. Camphor caskets, marking ink, and court plasters are included in the recent additions to the stock of specialties.

CHAMOIS SKINS are not derived from the chamois, as many people suppose, but are the flesh side of sheep-skins. The skins are soaked in lime water, and in a solution of sulphuric acid, fish oil is poured over them, and they are then carefully washed in a solution of potash.

Obituary.

ANHOLM.—On December 23, Mr. August Anholm, chemist and druggist, Smeaton Street, Hull. Aged 54 years.

BROWN.—On January 14, Mr. John Brown, chemist and druggist, Ripon, aged 63 years.

CROWTHER.—On December 21, Mr. Thomas Crowther, pharmaceutical chemist, Tickill, Yorkshire. Aged 67 years.

GIBSON.—On January 20, Mr. Thomas Gibson, one of the oldest and most respected tradesmen in North Shields, died at his residence, Alma Place. Mr. Gibson was a native of Weardale, and for many years carried on the business of a chemist on the New Quay. He retired from business about 15 years ago.

GILBERT.—On November 16, Mr. Edward Gilbert, chemist and druggist, Landon Road, Old Ford Road, London. Aged 68 years.

HALE.—On December 13, Mrs. Mary Hale, chemist and druggist, Brecon. Aged 64 years.

JONES.—On December 29, Mr. Ellis Powell Jones, chemist and druggist, Rhyl. Aged 54 years.

KUHLMANN.—*Nature* records the death, at Lille, about the end of January, of the chemist, C. F. Kuhlmann, at the age of 73. His researches during the past 40 years extend over a wide array of subjects. Over 20 years since he investigated the baryta compounds, and created the entire industry of this important group of salts. Another investigation, scarcely less valuable, was that made a few years previously, which led to the introduction of the process of saturation in the manufacture of sugar. Equally prolific of practical results were his extensive studies on the crystallisation of insoluble bodies, on the chemistry of mortars and cements, of manures, of bleaching, of dyeing and printing, and of numerous other branches. Especially interesting were his researches (1847) on the formation of nitric acid from ammonia, and on the relation of this reaction to the fertility of the soil. Among his more purely scientific investigations mention should be made of those on the formation of ethers, on the formation of cyanides and of prussic acid, on nitrous oxide, on the use of oxide of iron as an oxidising agent for organic compounds, on the action of gases on minerals, on the use of gaseous hydrofluoric acid for the analysis of silicates, and on a variety of minerals. The subject of crystallisation was throughout his career of investigation one of Kuhlmann's favourites, and we are indebted to him for the artificial reproduction of a variety of natural minerals, the most novel of which are the pseudomorphic forms of protoxide of manganese, of the sulphides of copper and lead, and of these metals themselves.

LAYCOCK.—On December 14, Mr. John Laycock, chemist and druggist, High Street, Skipton. Aged 30 years.

METZLER.—On December 14, Mr. Henry Metzler, pharmaceutical chemist, Minorities, London. Aged 63 years.

MARSHALL.—On December 15, Mr. John Marshall, chemist and druggist, John Street, Bradford. Aged 39 years.

ORD.—On December 16, Mr. John Ord, chemist and druggist, Frederick Street, Westminster. Aged 40 years.

PRESTON.—The Northern papers report the death of Mr. George Preston, of Latchford, Warrington, at the wonderful age of 108. Mr. Preston had been in business at Warrington as a chemist and druggist until about the year 1860, since which time he has lived in close retirement in a house which, with several others, he had built, and named after himself, "Preston Place."

A local paper states that, "as far as can be ascertained," he first came to Warrington in 1803, when he established himself in a chemist's shop in Bridge Street. He is said to have been married four times, and has had a large family, his eldest son being now nearly 70 years of age. Mr. Preston, like most persons who have attained a phenomenal age, was a man of extremely abstemious habits; but, strange to say, he never at any period of his life took much exercise. Considering his great age, he had, up to the last, few infirmities. His memory was excellent, and he was able to read print without glasses. He was never fond of the plea-

tures of the table; he used to say that he made a practice of only eating when he was hungry, but the sense of taste never forsook him to the last. His appetite was always good, and on the very day before his death he ate his dinner with his customary enjoyment. For some weeks previous to his death he had been confined to his bed. He suffered, however, from no specific complaint, and felt no pain. He was attended by Dr. Starkey Smith, but his was a disease against which neither pill nor potion can prevail. He died on Friday, January 21, his end perhaps being hastened by the intensely cold weather.

There appears to be some little doubt whether he was 105 or 108 years of age, but the inhabitants of Warrington do not admit the possibility of any further alternative.

The *Bolton Chronicle*, in recording the death, carries precision beyond the bounds of possibility, when it informs us that Mr. Preston was born on "April 31" (!), 1772.

We have been unable to obtain more exact details ourselves, beyond the information that our late centenarian *confrère* expressly desired that his retirement from this world should not be the occasion of any publicity.

PRESTON.—On November 29, Mr. Samuel Waterhouse Preston, chemist and druggist, Marchmont Street, London. Aged 72 years.

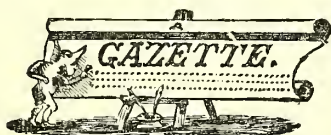
RICHARDS.—On December 25, Mr. Owen Richards, chemist and druggist, Bridge Street, Aberystwith. Aged 42 years.

SALISBURY.—On December 29, Mr. William Bryan Salisbury, pharmaceutical chemist, Market Street, Leicester. Aged 49 years.

TEEAR.—On December 18, Mr. John Madshaw Teear, pharmaceutical chemist, Humberstone Gate, Leicester. Aged 61 years.

WATSON.—On December 24, Mr. Gilbert P. Coker Watson, chemist and druggist, Lower King Street, Norwich. Aged 64 years.

WALKER.—On January 6, Mr. John Walker, homœopathic chemist, Conduit Street, London. Aged 70 years. Mr. Walker was born at Bathgate, but in early life he established himself as a chemist and druggist in Liverpool. During that time he personally found great benefit from the homœopathic treatment of Dr. Drysdale, and this induced him ultimately to limit his business to homœopathic medicines.



LIQUIDATIONS.

ADAMS, JOSEPH KEY, 20 Whittall Street, Birmingham, druggist, drysalter, and oil merchant. February 1.

ANDERSON, WILLIAM, Essington Lane, co. Durham, chemist and general dealer. January 26.

CLEGG, JAMES, 10 Manchester Road, Hopwood, chemist and druggist. January 20.

COOPER, JAMES CUTHBERT, under firm of Cooper Brothers & Co., 2 Queen Street, Newcastle, chemical merchant. January 22.

KNOWLES, CHARLES WILLIAM, Thorne and Hatfield, chemist and druggist. January 7.

PARTNERSHIPS DISSOLVED.

ABERCROMBIE & ADAMS, Clarendon Square, Pentonville, vendors of patent and proprietary medicines. January 21. (Robert Abercrombie and Henry Adams.) Debts by Abercrombie.

BOWDEN, EDWARD & AMBROSE, Charles Street, St. James's, chemists and druggists. December 31. (Edward Bowden and Ambrose Bowden.) Debts by A. Bowden.

CASE, JOHN, & Co., Dockhead, Bermondsey, coffee roasters, chicory manufacturers, spice grinders, and ginger bleachers. December 31. (Sarah Jane Maria Barry and John Case.) Debts by Case.

COWBURN & Co., Rawfolds, Cleckheaton, chemical manufacturers. January 5. (Sidney Cowburn, Samuel Cowburn, and John William Johnson.) As regards J. W. Johnson. January 5. Debts by S. and S. Cowburn.

HOVENDEN, R. & SONS, City Road, Great Marlborough Street, and Poland Street, wholesale perfumers and warehousemen. (Robert Hovenden, Frederiek Hovenden, Albert Hovenden, and Charles William Hovenden.) As regards C. W. Hovenden. November 27. Debts by remaining partners.

JONES, WILLIAM, & Co., Middlesborough, chemical manufacturers. December 21. (William Jones and Henry Fell Pease.)

LAUGHER, WILLIAM, High Street, West Bromwich, chemists and druggists. December 22. (William Laughler and John Holliday.)

MIDDLESBROUGH CHEMICAL COMPANY, Middlesborough, chemical manufacturers. December 21. (Henry Pease, Henry Fell Pease, and William Jones.)

PICTON & HATTON, Warrington, chemists and druggists. January 1. (Isaac Picton and John Hatton.) Debts by Hatton.

THOMAS, WILLIAM, & Co., High Street, Southampton, chemists and druggists. December 31. (William Thomas and William Day.) Debts by Day.

WRIGHT & BARNABY, Oxford Street, Chorlton-on-Medlock, chemists and druggists. December 28. Debts by Barnaby.



(The following list has been compiled expressly for **THE CHEMIST AND DRUGGIST** by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.)

Applications for Letters Patent:—

Aerated Liquids.—No. 329.—J. Williamson, of Westoe, Northumberland. Improvements in the preparation of carbonic acid and aerated waters. Dated January 25, 1881.

Aerated Liquids.—No. 363.—F. Wirth.—A communication from H. Beins and J. F. Beins, both of Groningen, Holland. Improvements in apparatus for the manufacture of aerated liquids. Dated January 27, 1881.

Aniline Dyes.—No. 76.—W. R. Lake.—A communication from N. C. Armand and J. E. Berton, both of Paris. Improvements in the preparation of aniline solutions for dyeing and printing textile and other materials. Dated January 6, 1881.

Bottles.—No. 71.—T. Marshall, of Old Kent Road. Improvements connected with feeding and other like-shaped bottles. Dated January 6, 1881.

Carbonate of Potassium.—No. 184.—E. P. Alexander.—A communication from C. R. Engel, of Paris. Improvements in the manufacture of carbonate of potassium. Dated January 14, 1881.

Colouring Matter.—No. 94.—F. Wirth.—A communication from O. Fischer, of Munich. Improvements in the manufacture of colouring matter. Dated January 8, 1881.

Magnesia.—No. 198.—C. Scheibler, of Berlin. Improvements in the manufacture of magnesia. Dated January 22, 1881.

Manufacture of Starch, &c.—No. 383.—W. R. Lake.—A communication from T. A. Jebb and W. T. Jebb, both of Buffalo, New York, United States. An improved process and apparatus for the manufacture of starch and glucose, or grape sugar. Dated January 28, 1881.

Preserving Alimentary Substances.—No. 140.—T. F. Wilkins, of Lavender Road, Clapham Junction, London. Improvements in the preservation of alimentary substances. Dated January 12, 1881.

Preserving Food, &c.—No. 179.—E. Jackson, of Brixton, and J. Ker-baw, of Cullum Street, both in London. A new or improved method of preserving food or other perishable articles. Dated January 14, 1881.

Production of Benzalacetate.—No. 289.—J. A. Dixon.—A communication from K. Koenig, of Höchst-am-Main, Germany. Improvements in the production of benzalacetate and certain substitution of products thereof, and in the transformation of these bodies respectively into cinnamic acid and the corresponding substitution products thereof. Dated January 22, 1881.

Purifying Hydrochloric Acid.—No. 222.—W. Weldon, of Burstow, Surrey, and W. G. Strype, of the Murrough, Wicklow. Improvements in purifying hydrochloric acid and in manufacturing chlorine therefrom. Dated January 18, 1881.

Stopping Bottles.—No. 99.—T. Burns, of Wolverhampton, Staffordshire. Improved means or apparatus for separately securing under lock the corks and stoppers in bottles and decanters and other necked vessels. Dated January 8, 1881.

Exchange Column.

ADVERTISERS IN THE EXCHANGE COLUMN will find it very much to their advantage to draw up their announcements so that they will fall naturally into one of the divisions into which the advertisements are grouped.

We would also suggest that those who avail themselves of the Disposal section will be wise to define, with some approach to detail, what they have to sell. Probable purchasers are too busy, in most cases, to enter into preliminary correspondence, which is likely enough to have no ultimate result.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C." the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Deposit of Money.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We shall acknowledge receipt to both parties by post-cards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we shall charge a commission of 2½ per cent. on any money thus passing through our hands, and not less than 6d. on any single transaction. This arrangement should entirely prevent any cause of complaint or dissatisfaction arising out of this section of THE CHEMIST AND DRUGGIST.

FOR DISPOSAL.

Dental and Surgical.

Eight pair Toms's tooth forceps, quite new, not been used, cost 5s. 6d. each, will take 4s. Walter Dalton, Milford Villas, Ealing, W.

Economising liquid nitrous oxide gas apparatus (Coxeter & Son's), complete, in good working order, good as new. Trippier, 79 Islington, Liverpool.

Pianoforte, costing 45 guineas three years since, in exchange for first-rate dental chair, with all latest improvements; difference in value could be paid in cash. 66/6.

Magneto-electric machine, very powerful, large size, quite new, 12s. 6d.; medical galvanic apparatus, constant battery, six powers, new mahogany box, 15s. Pickering, Chemist, Leicester.

Portable two-flask vulcaniser, with safety-valve, thermometer, flasks, and Bunsen's burner, good order, 2l. 10s.; set of seven forceps, key, and lancet, in case, in good condition, 1l. 1s.; 5 grain pill machine, 12s. 6d., or exchange for dental show-case, 5 patients, or anything useful. Stamp for reply. Foster, Chemist, Llandport, Portsmouth.

Two pair midwifery forceps, vagina speculum, four blades; Pettit's spiral tourniquet, two rolls of rubber bandage, half-d zen catheters and base stethoscope, half dozen tooth forceps, one old catheter, two pair scissors (long and bent), and about three dozen needles in small case; sent on approval with pleasure; 52s. the lot. Particulars apply, C. Goth, 1 St. Peter's Road, Lancaster.

Drugs and Chemicals.

4 lbs. gum opii turc. opt.; what offers? Varney, Chemist, Oxford.

Pint bottle ol. lavand. exot. (Warrick), 10s.

Thirly, Chemist, Leicester.

Two 4-lb. bottles potass. iodid., 70s.; two 4 oz. ditto quin. sulph., 85s.; ¼ lb. iodine resub., 5s., free. 263/16.

2 lbs. gum scammony Aleppo, good; sample on application. Windeatt, Chemist, Wellington, Somerset.

Ipecacuanha, small parcel, pure, cheap; sample for testing and price. H., 70 Monier Road, Wick Lane, Old Ford, E.

Cl. morrhue. nov., copai'a, quinine, acid tartaric, citric, ess. limonis, extra; send for sample and price. Bates, Oxford Street, Southampton.

Sarg's pure glycerine, in original 5-lb. tins, 5 lb. and 1 lb. bottles, much under present price. Bathe, Chemist, Lower Terrace, Notting Hill.

15 oz. genuine grain musk, guaranteed pure, 8s. 6d.; 2½ oz. best tonquin musk pods, 55s. 6d.; zedone. 4s. 10d. dozen, on rails in London. Albert Diaper, Pharmaceutical Chemist, Wanstead, London, E.

Apparatus.

One-gallon tin still, good as new, 10s. 37/266.

One Cartier's pill-coater, in good condition, what offers? Snaith, Chemist, Newark.

Electro-magnetic machine, Maw's make, as good as new, cost 50s., price 33s. Eastman, Tottenham.

Wheel barometer, mahogany frame, engraved and silvered dial, 10 inches diameter, and thermometer, 8s., 35s., or exchange. Atkins, Essex Road, Islington.

Two 400-gallon wrought iron handed cylinders, been used for storing petroleum, and are quite tight, one with division in centre 7l. 10s., not divided 6l., cost 20l., height 6 feet 5; also a tea-mill. G. Windeatt, Chemist, Wellington, Somerset.

A set of paint-mills, con. list of egg-runners, mixer, two pairs of horizontal stones and driving-gear, self-contained, in cast-iron frames, in splendid condition. Can be seen at R. H. Williams & Sons, South Bermondsey Railway Station, London, S.E.

Cheap.—Soda-water machine (hand-power), with gasometer and generator, complete, and ready for use; 6 iron oil-cisterns, with loose covers and brass screw-taps, hold about 150 gallons each; Collier's grinding-mill for loaf-sugar, for icing or lozenges (hand-power), will grind about 20 lbs. per hour; 1 Mather's patent paint and colour mill, best mill of the kind for druggists, painters, &c. Apply Tyne Vale Chemical Company, Forth Banks, Newcastle-on-Tyne.

Literature.

Atthill's "Diseases of Women," last edition, new 4s.; postage paid. 257/15.

Rhind's "Vegetable Kingdom," fourteen 2s. parts, uncut, price 10s. 259/9.

Pharmaceutical Journals, 1879 and 1880, 5s. each year. Rud'and, Trafalgar House, Greenwich.

Pharmaceutical Journal, 1870 to 1880, unbound; what offers? W. Chapman, Faringdon, Berks.

Muspratt's "Chemistry," complete, 7 vols., unsoiled, equal to new, cost 10s. 6d. each vol., what offers? J. E. Buck, Haverhill.

Erichsen's "Surgery," 45 engravings, 1861 (2l.), 8s. 6d.; Christison's "Poisons" (18s.), 6s.; Quin's "Anatomy," 3s. 6d.; Clarke's "Diseases, Females," two vols., plates (1l. 16s.), 10s.; Tuson's "Veterinary Pharmacopoeia," 1874, 6s.; Stillé's "Materia Medica," two vols., 12s. 6d.; Christison's "Dispersatory" (20s.), 7s. 6d.; Kane's "Chemistry Applied to Manufactures," 250 illustrations (28s.), 10s. M. Percy, 11 James Street, Haymarket, S.W.

Pharmaceutical Journal, posted Tuesdays, for Chemist and Druggist, on 18th month, both kept. Atkinson, Wolverton.

Will exchange first 24 parts of Virtue's "Illustrated Geography" (cost 2s. part) for 11th edition Squire's "Companion," and last edition Beasley's "Receipt-book," Smyth, Reigate.

Educational.

To Minor Students.—Thirty prescriptions given to dispense at Minor examinations (catch and difficult), 12 stamps. "Pharmacist," 43 Routine Street, Folkestone.

Lot of cheap books for pharmaceutical students, some quite new, enclose stamp for list, mentioning this journal Saunders, Medical Tutor, 79 Gaisford Street, London, N.W.

To Students.—Complete set of books used by successful Minors, comprising Atfield, 4th edition; B.P. Will's "Pharmacy," "Materia Medica," "Physics," "Metric System," and "Difficult Prescriptions"; Luff and Woodland's "Chemistry, Pharmacy, Botany, and Materia Medica Notes"; Pereira's "Selecta," 1s. Bentler, Bulfour Stewart's "Physics"; Stockhard's "Chemistry," Southall's "Organic Materia Medica"; first reasonable offer. D. G., Eltham Pharmacy, Eltham, Kent.

Proprietary Articles.

Six dozen Bradbury's sheep dipping, in good condition, 30s. 286/37.

About 12 cwt. Myer's cattle spice in ½, ¼, and ⅛ cwt. boxes in 1d. packets at 12s. per cwt. Geo. Atmore, Chemist, Lynn.

Holloway's pills and Bunter's nerve at 7s. 6d. per dozen, clean. Sangster, Chemist, High Street, St. John's Wood.

Two dozen 1s., eight dozen 6d., and eight dozen 3d. Steiner's vermin paste for 30s.; six 5s. Gillett's foot-rot remedy for sheep, 6s.; six 2s. Bragg's charcoal, 5s.; or lot 2l. G. Green, Alford, Lincolnshire.

Clean patents for sale, 20 per cent. off list for cash, or exchange. 12 2s. 9d. Cobden's pills, 4 4s. 6d. phosphodyne, 18 1s. 1½d. Steadman's powders, 9 1s. 1½d. Nuttall's pills, 9 1s. 1½d. Crompton's pills, 9 1s. 1½d. Baxter's lung preserver, 18 1s. 1½d. Steadman's powders, 6 1s. 1½d. Roper's plasters, Apply, "Chemist," 141 St. James Street, Burnley.

Shop Fittings.

Two pill machines, 15s. each; 200 shop rounds, 6s. doz.; box-scales, beam-scales, 12s. 6d. Giles, Chemist, Leeds.

The entire fixtures and utensils of five chemists' shops for disposal; 38l., 45l., 55l., 66l., 75l. Lloyd Rayner, 333 Kingsland Road, London.

Nest of 84 gold-labelled mahogany fronted deal dovetail drawers, with lockers under, good condition. Perks, 1 Sloane Square, London.

Splendid Spanish mahogany counter-case, 6 feet by 1 foot 6 inches, British plate glass, slanting, equal to new, by Mannel, Riding, Chemist, Sheffield.

Two solid mahogany stands for window, 4 shelves and plate-glass backs, height 21 inches, back to front 15 inches, cost 50s. each, price 30s. or 2l. 15s. the pair. Eastman, Tottenham.

Fire-proof safe to be sold cheap, 2 feet 6 high, 2 drawers, lever locks, 4 keys; also one 2 feet high, 1 drawer, lever locks, three keys. A. C. Weaver, Chemist, Dudley Road, Wolverhampton.

To Chemists and Others.—A dispensing screen, with gold writing and border, 58 inches by 20. Apply to Dr. Carr H. Roberts, 4 Cambridge Terrace, Kensal Road, near Westbourne Park Station.

Shop rounds, pink dome-top jars, lozenge jars. K., 14 Blagdon Street, Blyth.

Counter-case, nest of drawers, black stone bottles, various stoppered rounds; white flint-glass counter-scales, shop clock, specie jar, &c.; send for list; bargains. B., 11 Bridge Street, Goole.

A Bargain.—Altogether or separate, nest of 44 drawers and 4 lockers, 5 rows of shelving, wasbstand and tank; 2 specie jars, 2 5-gal. globes, glass case (plate glass), cigar case, marble slab 12-pill machine, 14 6 lb. olive-green pots, 1 doz. 32-oz. wide and narrow-mouth stoppered bottles, gold labels, 1½ doz. 30-oz. ditto, 3 doz. 20-oz. ditto, 2 doz. 8-oz. ditto, 3 engraved acid-bottles. Address, A. Archer, Post Office, Minsall Hill, N.

2 ft. long, 2 ft. 6 in. long, 3 ft. long, 3 ft. 2 in. long, 3 ft. 10 in. long, 4 ft. long, 5 ft. long, 6 ft. long, 10 ft. long, 12 ft. long, 15 ft. long nests mahogany-fronted gold-labelled shop-drawers; 8 nests deal-stained mahogany-fronted gold-labelled shop drawers; 3½ ft. long, 4 ft. long, 4 ft. 6 in. long, 5 ft. long, 5 ft. 8 in. long, 6 ft. long, 8 ft. 8 in. long handsome mahogany dispensing-case screens; 14 mahogany wall-cases, with and without cupboards under; 5 mahogany upright counter-cases with desks; 13 mahogany-top counters, all sizes; 10 bent-glass counter-cases, all sizes; quantity pear-shape window carboys and specie jars; quantity shop bottles and jars. Lloyd Rayner, 333 Kingsland Road, London.

A large lot of globes at prices as follows:—1, 2, 3, 4, 6, 8, and 10 gallons, 3s. 6d., 5s., 7s. 6d., 8s. 6d., 10s. 6d., 12s. 6d., 18s. each; a lot of 3 and 4-lb. blue and olive dome-top jars for ointments at 1s. 8d. and 2s. each, gold labelled; about 40 specie jars cheap, all sizes; dispensing sere ns, mahogany, 3 ft., 5½ ft. 6d., 4 ft., 7½ ft. 6d.; 5 ft., 90s.; screens, mirror centres, 5 ft., 100s.; 6 ft., 115s.; 7 ft., 130s.; better quality with marble slab, 6 ft., 7½ ft. 10s.; 8 ft., 10½ ft.; 9 ft., 12½ ft.; and up to 12 ft.; a lot of 1-gallon black bottles, gold-labelled, 1s. 8d. each; desk and glass case, 40s.; flat sloping cases, 3, 6, and 13 inches, for soap case, 15s. 6d.; bent front cases, all sizes, new and second-hand; fittings sufficient to fit a small branch shop, 22½ ft.; a lot of brass mortars, 1s. per lb.; lot of three months' German floats, Maw's quality, 12s. per gross; several coffee-mills, very cheap, new and new cut; a large stock of Wedgwood mortars, cheap; several pairs of second-hand counter scales, brass, from 10s. per pair; 12 oil cisterns; several nests of mahogany and painted drawers; a counter 12 ft. long, full of drawers; a lot of 8-gallon, 30-gallon, and 40-gallon glass cut oil bottles, cheap. Write for lists and state articles you require. Richard Tomlinson, 15 St. Paul's Square, Birmingham.

Shares.

Twenty shares of Mineral Water Company. Apply to 252/33.

Formulæ.

Eau de Cologne.—Indistinguishable from Farina's, 24s. per gallon, recipe 5s. 189/39.

Recipe for Elliman's embrocation, quite different to anything published; no egg required for mixing; price 5s. 267/30.

Rubber and Compo Stamp Making.—Full instructions in the above lucrative business free for 39 stamps, success certain. Allison, 8 Mercer Row, Louth.

Glossy pearl coating, 1s., efficient, inexpensive, applicable for dispensing, covered pot only required. Send stamped envelope to Bruce, Station Road, New Barnet.

Excellent quinine and iron tonic, 5s. 6d.; essence rennett, 7s. 6d.; neuralgic pills, 2s. 6d.; lime and glycerine, 2s. 6d.; or 16s. 6d. the lot. W. Herbert, 4 Outram Street, York Road, N.

Limes and glycerine, white, inseparable, equal to that made with almond oil, c stings, without perfume, 2s. 6d. per gallon; recipe 2s. 6d., sample 4d. Jones, Kilmhurst, Potherham.

Neurine.—The formula of this specific for neuralgia and all nerve pains (a combination practically unknown) sent for 30 penny stamps, which will be returned if immediate relief and permanent cure be not obtained. Allis Brooks, South Street, Louth, Lins.

Premium of 20s. will be given for formula of best perfume, requiring no distillation. Competitors to send samples, post paid, with distinctive mark to Bell, Chemist, Battersea Rise, S.W. By request of other intending competitors, whose samples are not ready, competition will remain open till next issue C. & D.

Vaniline, a secret of the harem, an Eastern unguent of great potency in rendering the skin fair, soft, and transparent; to its use, it is said, the beauties of the harem owe the transcendent purity of their complexion. Free for 13 stamps and stamped directed envelope from "Chemicis," The Plains, Totnes.

Neuralgic pills, a remedy for tic, neuralgia, &c., which can boast of all but infallibility, positively curing nine cases out of ten; costs 2d. per gross; original proprietor clears over 70% yearly by it without advertising; any chemist desiring a reliable formula will find this a good bargain; price 5s. E. Hampson, 21 Baxter Road, Islington, N.

My formula for glycerine cough linctus has been the success of the season; it forms a brilliant ruby-red compound, clear, bright, and very effective, and will keep as well as glycerine itself; it should find a place upon the retail counter of every chemist from John o' Groats to Land's End. Free for 13 stamps and stamped directed envelope from H. Lloyd, Upton-on-Severn.

These superior formulæ give general satisfaction and bear large profits, 13 stamps each.—A favourite perfume, the new burn remedy, inseparable lime juice and glycerine, efficacious cough mixture for adults, ditto for children, a good effervescent saline preferred by some to Eno's fruit salt, superior black writing ink, first-class toothache remedy, splendid dentifrice, unfading pomade. T. Taylor, 10 Bridgstocke Road, Bristol.

An entirely new remedy for curing toothache and neuralgic pains, never fails, simple, inexpensive; nigerine, brilliant jet-black waterproof blacking, better than Nubian; lupuline bitters, a never-failing pick-me up; digestive relish, me low piquant, appetising, costs 3s. gallon; inseparable lime cream, &c., for the million, snow white, costs 6d. lb.; foaming dentifrice, really nice, equal to floriline, Recipe's 13d. each, six for 5s. Brooks, South Street, Louth.

A Genuine Bargain.—The undermentioned reliable, profitable, and well-tried formulæ for 5s., or 6 2s. 6d., post free:—Shepherd's pectoral balsam, remedy for gonorrhoea, chilblain and rheumatic liniments, tie and gout pills, neuralgic mixture, rose odonto, tonic wine, toothache essence, invisible glycerine jelly, hair promoter, soluble balsam copalæ, bloom of roses, condition powders, horse oils, gripe drinks, cow drinks, physic and diuretic masses, and injection for gonorrhoea. "Pharmacist," 43 Tontine Street, Folkestone.

The School Board ink, one of the best inks ever manufactured, not surpassed by any of the first makers of the day. Formula free for 12 stamps and stamped directed envelope from "Chemist," The Plains, Totnes.

Red rose lotion, simple cooling skin depurative, never decomposes, resembles sulpholine; rheumatic embrocation, most efficacious, clearly transparent, costs 7d. lb.; tonic hair lotion, cleanses the head, invigorates the hair, elegant proprietary; blood-purifying powder (recipe of London surgeon), pleasant taking, inexpensive, mild; amygdaline balm, snow-white emulsion for chapped hands, &c., better than jolly, absorbs quickly, no stickiness, the very last bouquet delightfully sweet and refreshing, cost moderate, recipe's 13d. each, 6 for 5s. Brooks, South Street, Louth.

Advertisement.—During many years' regular use my formulæ for the following have proved thoroughly reliable and satisfactory:—Glycerine lime cream (snowy white, inseparable), glycerine jelly (clear as crystal), brilliant jet-black waterproof blacking (superior to Nubian), cherry tooth-paste (never ferments), china cement (strong as conguine), fragrant foaming dentifrice (resembling floriline), brilliantine (best extant, inseparable), pearl white pill-coating (improved process), blue-black non-corrosive writing-ink, indelible marking-ink (red or black); 30 stamps each, 5 for 10s. Kitching, Chemist, Prospect Street, Hull.

Fragrant foaming dentifrice (similar to floriline); glycerine jelly (perfectly transparent); cherry tooth paste (never ferments); brilliantine (inseparable); lime-juice and glycerine (inseparable and perfectly white); splendid black ink (never corrodes steel-pens); marking ink (black or red); effervescent fruit saline (resembles Eno's); pill-coating (pearly white, no mucilage or mastic used); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); excellent chilblain paint; cough mixture (clear red, effective, and agreeable); with many others; send stamp for list. The toilet articles are identical with those prepared by a renowned West-end perfumer; the others are equally good; all inexpensive to prepare; 5s. each (five for 1½); inquiry letters must be prepaid. "Analyst," care of Mr. Warnes, 79 Galsford Street, N.W.

Miscellaneous.

Electroplated teapot, 13s. 6d.; four-glass cruet, 15s.; biscuit-tox, 15s.; approval. 261/21.

Overstocked.—100 yards best white tubing for feeders, 3½d. yard. Blades, Leek.

15-carat gold Albert, cost 5½; cash 3½, or exchange drugs to 4½, 16/263.

A beautiful Violoncello violin, in splendid case, with bow. Webb, Chemist, Calne.

A small hand sewing-machine, "Little Weir," cost 55s., price 25s. cash. C. G. Genn, Devonshire Street, Sheffield.

First proof engraving of Doré's "Christ Leaving the Praetorium," 4½, cheap. Walter Dalton, Milford Villas, Ealing, W.

Job lot of 6-oz. fluted green bottles for olive oil or syrup, 5s. per gross. Sangster, Chemist, High Street, St. John's Wood.

Howe's eight guinea sewing machine, in perfect working order; cash 5½, or exchange patents. B., 11 Bridge Street, Goole.

A good French eight-day sailing time-piece, suitable for shop or parlour, price 30s. "Chemist," 20 Dean Street, Westminster, Bristol.

Ten gross assorted 1-oz., 2 oz bottles, all sound, 6s. gross; bell-metal mortar, 59 lbs., good as new, 3½. Mitton, Barnoldswick, York-shire.

Field-glasses, morocco case, ten-mile range; 12s. 6d. Hambridge, Chemist, Reading.

56-inch bicycle, all bright, very handsome, warranted perfect; great bargain at 57. 10s.; getting higher machine. Barry, Chemist, Shaftesbury.

Two nests large drawers, 1s. 6d. per drawer; 3 cwt. Venice turpentine; large quantity trusses, various makes. H., 51 Long Street, Middleton, Lancs.

One hundred and fifty German shop rounds, 10 to 40 oz., cheap; also Toynbee "On the Ear," nearly new, half price. Upjohn, Chemist, Millmay Park, N.

Francis No. 4 printing press, cost £7. 10s., with extra type, quite new, having never been used, receipted invoices to show; I will take 47. or offers. C. Seaman, Drydenes.

Sheffield burnisher (for cartes, cabinets, and imperials), to exchange. What offers in drugs, or anything useful? Nearly new; original price 47. 4s. Wilkinson & Co., 3 Baker's Hill, Sheffield.

Cremona violin, Stradivarius copy, in handsome case, and bow, splendid mellow tone, price 40s.; also fairy bells, eight strings, new, price 8s. J. Riley, 268 New Liverpool Street, Salford.

Two 40-gall n cisterns, with taps; 50,000 gilt violet powder wrappers, 1d. size; cistern, with fine tap for storing and filling castor oil; label and paper chest, Maw's fig. 51. M. Wilks, Chemist, Burnley.

Medium-size tincture-press, cash or exchange; surplus drugs, &c., to exchange for patent medicines, &c.; tall and handsome counter show-stand, mirrored shelves, good as new, Leath & Ross, 21s.; case homœopathic medicines for half price; pharmaceutical arms, hand-painted, glazed, and framed, 28 by 17½ inches; stuffed fox (mounted), drugs, &c., in exchange. W. Fever, Chemist, Harrold.

Creta precip., 6 cwt., very slightly soiled, 20s. cwt.; large quantity of paraffin-lamps and lamp-fittings, much below cost price. B. Newbam & Co., Sheffield.

To Chemists.—For sale.—A special lot of 6-oz plug stoppered saline bottles in quantities of not less than one gross, 15s.; 56 lbs. of 4 and 6 inch bandage-lint, very fine quality, 1s. 5d. per lb. (not less than 7 lbs.); 100 dozen assorted male and female syringes, 1s. 6d. per dozen; 50 dozen 1½-oz. and 2-oz. male or female ditto, 2s. 9d. per dozen (not less than one gross assorted); 4 gro s glass and indiarubber spray-diffusers at 7s. 3d. per dozen (not less than 3 dozen); 60 dozen buffalo-handled best tooth brushes, very excellent goods, at 5s. per dozen; porcelain or metal tooth-brush guards, 2s. per dozen; 30 gross wire cork-screws, 1s. per gross; Defevre's seltzogenes, 5 pint, 16s. 3d.; 3-pint, 11s. 6d.; 2-pint, 9s. 6d. each; 50 dozen Lamb's teats, boxwood and indiarubber, 3s. 6d. per dozen; 20 gross large swan camel hair pencils, 9s. per gross; 12 dozen 7½ Pott's infant's friend, at 5s.; 9 dozen ditto, 13d. size, 7s. 6d. per dozen; 12 dozen George's pills, 8s. 6d. per dozen; 6 dozen Hughes' pills, 8s. 6d. per dozen; 18 dozen Perk's coal-tar soap, 2s. per dozen; 32 reams of white demy paper (17 lbs.), 6s. per ream; 20 reams of tinted wrapping paper, very cheap, 8s. 3d. per ream; 112 lbs. of fancy twine, assorted colours, 2 oz. balls, 2s. 8d. per lb.; 12 dozen Fardon's Indian tincture, 8s. 6d. per dozen; 6 dozen Fardon's cough balsam, 8s. 6d. per dozen; 6 dozen Fowlr's 6d. glycerine balm, 3s. per dozen; 10 gross Catbery's 6d. dog soap, 36s. per gross; 6 gross Catbery's 3d. cement, 18s. per gross; 6d. cement, 36s. per gross; 10 dozen Catbery's beetle-powder, 6d. size, 3s. per dozen. Address, X. Y. Z., 112 Packing ton Street, Islington, London, N.

WANTED.

First-rate dental chair, 6/44.

Britten's "Dispenser's Vade Mecum," 265/33. Six-oz. bottles. 264/25.

Rimmel's perfume-fountain, about 18 inches high. 264/12.

Hanbury's "Pharmacographia." Halliwell & Co., 63 Wood Street, Liverpool.

Tincture-press. Particulars to Perks, 1 Sloane Square.

1 cwt. sem. carui; state lowest price. Address, W. A. Thorne, Yorks.

Twelve-gall. drum, with tap, 6 to 10 gall. copper cistern or boiler. M. Wicks, Burnley.

Soda-water bottling rack, bottles, zedone, and champagne bottles. "Alpa," 34 High Street, Putney.

Indiarubber water-mattress, in good condition. Particulars to J. W. C., 29A Upper Gloucester Place, N.W.

Morphia mur., 20 oz., in exchange for saleable patents; dispensing-scales, as figs. 7 and 8 Maw's. 2/13.

Erps' homœopathic show-case, large size, or other, in good condition. Atkinson, Chemist, Lincoln.

A dentist's operating chair, also gas apparatus. Address, D. S., 2 Fernhead Road, Harrow Road, W.

Attfield's or other "Chemistry," also Nichols' or other "Physiology"; will post *Pharmaceutical Journal* Saturdays for *Chemist and Druggist*. Pattinson, Chemist, Durham.

5-grain pill machine for 24 cork presser, snipostory mould, plaster spatulas, composition mortars and pestles, 4 or 6 gallon swannecked carboys, in good condition; state sizes and lowest prices. 1/18.

ADDRESS WANTED.

Address of Sir E. Waller, Bart.; also Mr. Paton, who resided some time ago at St. Leonards, and removed to Croydon. E. H. Hasselby, St. Leonards.

THE CHEMICAL SOCIETY.

Thursday, January 20.

PROFESSOR H. E. ROSCOE, President, in the chair.

The President announced that the Faraday lecture would be delivered by Professor Helmholtz, in the Royal Institution, "On the Modern Development of Faraday's Conception of Electricity."

The following papers were read:—

"On Pentathionic Acid," by Mr. V. Lewes. The author has succeeded in obtaining beautifully crystallised barium and potassium pentathionates by partially neutralising Wackenroder's solution and evaporation in vacuo. A preliminary note on some hydrocarbons from rosin spirit by Dr. Armstrong. Cymene, toluene, and metaxylene were found to be present. The hydrocarbons insoluble in sulphuric acid are probably hexylhydrides of hydrocarbons of the benzene series. The author does not consider that rosin is directly derived from terpene.

"On the Determination of the Relative Weight of Single Molecules," by Dr. Vogel, of San Francisco.

"On the Synthetical Production of Ammonia by the Combination of Hydrogen and Nitrogen in presence of Heated Spongy Platinum," by G. S. Johnson. About 0.0144 grm. of ammonia were obtained in 2½ hours.

"On the Oxidation of Organic Matter in Water," by A. Downes. "Analysis of Queensland Soils," by Professor A. Liversidge. These analyses are interesting, as the soils include samples from districts which were exempt from the disease prevalent in the sugar plantations around.

"On the Volumes of some Compounds of the Benzene, Naphthalene, Anthracene, and Phenanthrene Series," by Dr. Ramsay.

"On the Atomic Volume of Nitrogen," by Dr. Ramsay.

"On a New Theory of the Conversion of Bar Iron into Steel by the Cementation Process," by Dr. Marsden. The author thinks that carbon diffuses in an impalpable powder through the heated iron.

"On the Action of Sulphydrate of Potassium on Chloral Hydrate," by W. W. J. Nicol. Thioglyosecytic and thioformic acids are formed.

Thursday, February 3.

DR. GLADSTONE, Vice-President, in the chair.

It was announced that a ballot for the election of Fellows would take place at the next meeting of the Society.

The following papers were read:—

"On the Estimation of Organic Carbon in Air," by Drs. Dupré and Hake. The carbon is converted into carbonic acid by passing the air over heated oxide of copper; the carbonic acid thus produced is absorbed by baryta water, the carbonate is converted into sulphate, which is weighed. The carbonic acid present in the air as such is estimated in a similar way and deducted. The mean quantity of organic carbon in 10 litres of ordinary London air was 0.000154; Boussingault and Verser found ten times as much. The authors also refer to the results obtained by Pettenkofer in his well-known experiments on the elimination by animals of H and CH₄. Pettenkofer seems to have entirely neglected the organic carbon in the atmosphere, and thus his results require very important corrections.

"On the Action of the Copper-zinc Couple upon Nitrates and the Estimation of Nitric Acid in Water Analysis," by M. W. Williams. Some strips of clean zinc foil are placed in a wide-mouth stoppered-bottle and covered with a 3 per cent. solution of copper sulphate; when the zinc has acquired a sufficient coating of copper, the solution is poured off and the copper-zinc couple washed. The water to be analysed is then poured on the couple and allowed to remain for some hours, at 24°C., after the addition of a little pure sodium chloride. The nitrates are thus completely converted into ammonia, which is estimated by Nesslerizing.

"On the Position taken by the Nitro Group on Nitrating the Dibromo-toluene," by R. Neville and A. Winther.

"On some of the Various Derivatives of Toluene and the Toluidines," by R. Neville and A. Winther.



THE official returns for the month of January continue to indicate an expansion of export business and a reduction of expenditure for foreign supplies of the necessities of life. So far as the latter is due to a better home supply, the effect is an increase of national wealth, but some part of the reduction in the imports must be attributed to the extraordinary weather which characterised the latter half of January, and which prevented the arrival of much merchandise. To some extent the same cause limited the quantity of goods shipped from this country during the month. The total value of the imports during the month was 26,742,962*l.* In January, 1880, it was 32,372,907*l.* The total value of the exports in January, 1881, was 17,318,911*l.*; in January, 1880, 16,912,858*l.* As regards the export of chemicals, the figures stand thus:—

	Jan., 1880	Jan., 1881
Alkali	cwt. 501,0 3	460 889
Alkali .. .. .	.. value £180,210	£138,315
Other chemical products ..	.. value £176,246	£162,033

In this particular industry, therefore, the progress of which has been developing regularly for more than a year past, there appears to have been a serious check. The exceptional circumstance we have alluded to may have been sufficient to account for the falling-off.

The coal strikes in Lancashire have considerably inconvenienced the alkali manufacturers, and consequently a distinct hardening of prices in the products of that district is noticeable. For bleaching powder 6*s.* per cwt. in London is now asked, against 5*s.* 6*d.* last month. Caustic soda and crystals are also somewhat higher. A good many of the factories are only turning out half their maximum product, and unless some change occurs, enabling them to get their usual supplies of fuel at the normal price, a considerable advance in values may be looked for.

Citric acid has been dull since the advance of last month, and gradually declined, but when makers were willing to accept 2*s.* 1*d.* buyers were tempted, and would have gone on at that price, but it cannot now be obtained under 2*s.* 2*d.* Cream of tartar has gradually crept up to 12*s.*, and is very steady at that figure. Tartaric acid, too, is firm at 1*s.* 8½*d.* for English, and 1*s.* 7¾*d.* for foreign make.

Sulphate of ammonia is firm at an advance of 20*s.* per ton. Oxalic acid can be bought at 4¾*d.*, but 5*d.* is required for future delivery.

Quinine has been in limited supply in this market during the month, both of English and foreign manufacture, French being especially scarce. The price for English is now quoted at 11*s.* 6*d.* Makers of iodide of potassium have raised their quotations 6*d.* per lb., but this does not arise from any immediate prospect of advance in iodine—the supply of which from Chili appears to be more than sufficient to meet the requirements of the market. Glycerine still continues to advance, and it is stated that the forthcoming supply for some months to come is being concentrated in few hands, indicating still higher prices in the course of the year. Makers of refined camphor have not yet advanced their prices, but in view of the continued firmness of the crude it is very likely they soon will do so.

The bark sales have manifested steadiness, and within the last week activity, a large trade having taken place in South American kinds with the price turning in favour of sellers.

It is asserted that in South America virgin forests of cinchona have been discovered, and if the abundant supply suggested from that quarter should coincide with the anticipated geometric increase of the Indian production, a time may come when the long expected artificial manufacture of quinine will hardly have a commercial interest.

In opium rather more demand is observable, but only a slight advance in price has resulted. The position of this drug, as far as speculation is concerned, is unchanged.

The changes in the drug markets generally are not important. In consequence of a deficiency in the stock jalap roots have been advanced, and cubebs still sell at increasing prices. Vanillaes are a small crop and are considerably higher. Cardamoms are dull, and likely to decline. Gum arabic is lower for all varieties, but benjamin fully maintains recent prices. Tragacanth also is strongly held. A small quantity of balsam of peru has been sold at the high figure of 10*s.* 6*d.*, and balsam capivi is still firm, and far from abundant.

In oils, the tendency is generally downwards. Olive is in but very limited demand, and prices are barely kept up on this market, while in Italy shipments can only be effected at lower rates. Linseed and rape oils all mark a decline for the month, as also does cottonseed. Lard is rather higher.

Turpentine has been up to 36*s.*, but has now settled down to 35*s.* Large transactions have taken place in petroleum speculation, both for the rise and fall having been active. Within the past week prices have sometimes varied as much as 1½*d.* per gallon in a single day. The price at the moment may be given as 11*d.* for prompt and 8*d.* for March delivery.

Annexed is the record of stocks of drugs in the port of London on January 31:—

	1881	1880		1881	1880
Aloes	3,435	1,563	Gum (<i>cont.</i>)—		
"	1	11	Damar.... pkgs	3,535	1,248
"	230	594	Galbanum ..	4	12
Aniseed, Star chits	552	461	Gamboge.. "	151	189
Arrowroot	11,237	10,498	Guaiaicum.. "	33	57
" bxs & tins	9,604	13,888	Kino	23	38
Balsam....cks, &c.	27	26	Kowrie	732	452
Bark, Medicinal			Mastic	130	117
"			Myrrh, E.I. "	154	125
"	994	751	Olibanum.. "	3,442	1,655
"	27,487	17,586	Sandarac.. "	249	344
Borax	440	484	Senegal.....	12	16
Bees' Wax			Tragacanth pkgs	1,662	2,164
"	860	1,053	Ipecac....cks & bgs	187	172
"	1,859	2,727	Jalap	217	281
"	52	6	Nux Vomica pkgs	581	922
"	6,979	3,039			
Camphor	4,273	3,953	Oil—		
Cardamoms	307	333	Castor	63	128
Coc. Ind. bgs, &c.	887	1,275	"	6,702	14,326
Colombo root pkgs	534	411	Palm	811	217
Cream Tartar....	95	113	Cocoonut	8,768	4,745
Cubebs	95	98	Olive	299	1,564
Dragonblood chits	145	81	Aniseed	218	136
Galls, E.I. cks & cs	933	1,267	Cassia	305	316
M'terranean sks	799	512	Opium	1,311	1,258
			Rhubarb.....	883	1,248
Gum—			Sarsaparilla....	558	555
Ammoniac pkgs	352	413	Senna	2,032	1,519
Animi & Copal					
pkgs	2,991	2,325	Shellac—		
Arabic, Barbary			Orange	16,069	21,715
pkgs	1,476	1,837	Garnet... "	11,278	11,799
Turkey .. "	1,573	3,469	Button... "	3,064	1,983
E.I. "	2,023	1,779	Turmeric	3,033	2,743
Assafoetida ..	298	315	Vermilion	116	106
Benjamin.. "	2,492	7,280			

THE Council of the Society of Arts offer 5*l.* as a prize for the best label for plants. A cheap and durable label is required, and one which will show legibly whatever is printed thereon. It must be suitable for open borders. Specimen labels, with motto attached as usual, are to be sent to the Secretary of the Society by May 1, 1881. The prize is given by Mr. G. F. Wilson, F.R.S.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

1881.

1880.

ACIDS—

	s. d.	s. d.	s. d.	s. d.
Acetic .....per lb.	0 4 to	0 0	0 2½ to	0 3½
pure	0 5 ..	0 9	0 0 ..	0 0
glacial	1 0 ..	1 11	0 0 ..	0 0
Benzoic Sublimate ..	6 0 ..	0 0	0 0 ..	0 0
Ex. Gum. ....per oz.	0 9 ..	0 0	0 0 ..	0 0
Citric	2 2 ..	0 0	2 5 ..	0 0
Gallic	4 3 ..	0 0	4 0 ..	0 0
Hydrochlor. ....per cwt.	5 0 ..	7 0	4 0 ..	7 0
Nitric	0 3 ..	0 4	0 4 ..	0 0
Oxalic	0 4½ ..	0 0	0 5 ..	0 5½
Sulphuric	0 1 ..	0 0	0 0½ ..	0 1
Salicylic	8 0 ..	8 6	0 0 ..	0 0
Tannic	1 7 ..	2 8	0 0 ..	0 0
Tartaric English ..	1 8½ ..	1 8½	1 7 ..	1 7
foreign	1 7½ ..	1 7½	1 6 ..	1 7
ANTIMONY ore	0 0 ..	0 0	240 0 ..	300 0
crude	42 0 ..	0 0	0 0 ..	0 0
star	62 0 ..	65 0	61 0 ..	65 0
ARSENIC, lump	23 6 ..	24 6	24 0 ..	0 0
powder	10 6 ..	11 0	11 0 ..	0 0
BRIMSTONE, rough	125 0 ..	0 0	105 0 ..	110 0
roll	8 6 ..	9 6	9 6 ..	10 9
flour	10 6 ..	12 6	10 6 ..	12 3
GLYCERINE, German ..	72 0 ..	88 0	41 0 ..	61 0
refined	50 0 ..	52 0	0 0 ..	0 0
crude brown	0 6 ..	0 6½	1 2 ..	0 0
IODINE, dry	1 0 ..	1 6	1 10 ..	0 0
MAGNESIA, calcined	5 0 ..	0 0	0 0 ..	0 0
Pond, Hwds. ....per bottle	135 0 ..	149 0	140 0 ..	0 0
MERCURY	16 9 ..	17 0	18 0 ..	19 6
MINIUM, red	25 6 ..	29 0	29 0 ..	31 0
orange	3 0 ..	0 0	3 2 ..	0 0
PRECIPITATE, red	2 11 ..	0 0	3 1 ..	0 0
white	0 0 ..	0 0	0 0 ..	0 0
PRUSSIAN BLUE	21 6 ..	0 0	23 0 ..	0 0
SANTONINE	13 6 ..	0 0	0 0 ..	0 0
SALICINE	25 0 ..	0 0	27 0 ..	0 0
THYMOL	170 0 ..	125 0	135 0 ..	140 0

SALTS—

Alum	147 6 ..	0 0	155 0 ..	0 0
Ammonia:				
Carbonate	0 6½ ..	0 6½	0 6½ ..	0 6½
Hydrochlorate, crude,				
white	0 0 ..	760 0	600 0 ..	470 0
Sulphate	410 0 ..	423 0	390 0 ..	410 0
Argol, Cape	84 0 ..	100 0	77 0 ..	86 0
Red	69 0 ..	80 0	50 0 ..	75 0
Oporto, red	36 0 ..	36 6	35 0 ..	33 0
Sicily	0 0 ..	0 0	0 0 ..	0 0
Bleaching powd.	5 9 ..	6 0	9 0 ..	0 0
Borax, British refined ..	61 0 ..	63 0	50 0 ..	0 0
Calomel	2 8 ..	0 0	2 11 ..	0 0
Chloral hydrate, Saane's ..	4 2 ..	4 4	0 0 ..	0 0
Liebreich's	5 6 ..	6 0	0 0 ..	0 0
Copper:				
Sulphate	19 6 ..	0 0	21 0 ..	21 6
Copperas, green	45 0 ..	50 0	50 0 ..	55 0
Corrosive Sublimate p. lb.	2 1 ..	0 0	2 4 ..	0 0
Cr. Tartar, French, p. cwt.	123 0 ..	124 0	120 0 ..	0 0
brown	102 6 ..	105 0	97 6 ..	0 0
Epsom Salts	4 0 ..	5 6	4 3 ..	6 0
Glauber Salts	3 0 ..	4 9	3 0 ..	4 6
Magnesia: Carbonate ..	42 6 ..	0 0	42 6 ..	0 0
Pond, Hwds. ....per lb.	72 0 ..	0 0	0 0 ..	0 0
Morpha Murias	9 3 ..	0 0	10 0 ..	0 0
Potash:				
Bichromate	0 6 ..	0 0	0 6½ ..	0 7
Carbonate:				
Potashes, Canada, 1st				
sort	28 6 ..	29 0	27 6 ..	28 0
Pearlshes, Canada, 1st				
sort	31 6 ..	0 0	34 0 ..	0 0
Chlorate	0 7½ ..	0 0	0 7½ ..	0 0
Prussiate	0 10 ..	0 10½	0 11½ ..	1 0
red	1 11 ..	0 0	1 8 ..	1 10½
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Bromide	1 7 ..	1 8	1 8 ..	0 0
Chloride	7 0 ..	0 0	0 0 ..	0 0
Iodide	9 0 ..	9 6	18 0 ..	18 6
Quinine:				
Sulphate, British, in				
bottles	11 6 ..	0 0	12 0 ..	0 0
Sulphate, French	12 0 ..	0 0	12 0 ..	12 3
Sulphate, German	10 6 ..	10 9	0 0 ..	0 0
Sal Acetos	0 6½ ..	0 7	0 7 ..	0 7½
Sal Ammoniac, Brit. cwt.	44 0 ..	45 0	44 0 ..	45 0

	s. d.	s. d.	s. d.	s. d.
Saltpetre:				
Bengal, 6 per cent. or	24 0 to	24 6	24 0 to	24 6
under				
Bengal, over 6 per cent.	23 0 ..	24 0	22 3 ..	23 9
per cwt.	27 6 ..	29 0	27 6 ..	29 9
British, refined	10 4 ..	10 6	12 6 ..	12 9
Soda: Bicarbonate	45 0 ..	0 0	0 0 ..	0 0
Hwds.				
Carbonate:				
Soda Ash ..per deg.	0 1½ ..	0 1½	0 2½ ..	0 0
Soda Crystals per ton	65 0 ..	63 8	82 6 ..	0 0
Caustic	10 0 ..	10 6	11 9 ..	12 6
Hyposulphite, per cwt.	8 0 ..	0 0	0 0 ..	0 0
Nitrate	14 9 ..	0 0	18 9 ..	19 0
Zinc Sulphate	12 0 ..	14 0	0 0 ..	0 0
SUGAR OF LEAD, White cwt.	37 6 ..	38 0	40 0 ..	0 0
Brown, cwt.	26 0 ..	0 0	26 6 ..	0 0
VERDIGRIS	0 10½ ..	1 2	1 1 ..	1 5
VERMILION, English	2 6 ..	0 0	2 8 ..	0 0
China	1 10 ..	1 11	2 3 ..	0 0
DRUGS.				
ALOE, Hepatic	80 0 ..	150 0	60 0 ..	150 0
Socotrine	55 0 ..	180 0	50 0 ..	200 0
Cape, good	44 0 ..	45 0	37 0 ..	28 0
Inferior	40 0 ..	42 0	34 0 ..	38 0
Barbadoes	45 0 ..	180 0	40 0 ..	210 0
Curacao	33 0 ..	42 0	0 0 ..	0 0
AMBERGRIS, grey	75 0 ..	92 0	51 0 ..	25 0
BALSAM—				
Canada	1 0 ..	1 3	0 0 ..	0 0
Capivi	1 10 ..	2 8	0 0 ..	0 0
Peru	1 10 ..	0 0	0 0 ..	0 0
Tolu	2 4 ..	2 9	3 0 ..	3 2
BARKS—				
Canella alba	15 0 ..	18 0	12 0 ..	18 0
Cascarilla	20 0 ..	21 0	18 0 ..	24 0
CINCHONA—				
Calisaya, good and fine per lb.	6 0 ..	8 0	7 0 ..	11 6
medium	2 6 ..	5 0	3 0 ..	5 0
N. Granad., fair to fine	5 0 ..	6 0	0 0 ..	0 0
ord. to mid.	2 0 ..	4 6	0 0 ..	0 0
Columbian, fine	3 11 ..	4 11	4 0 ..	6 4
ord. to fair	1 0 ..	2 0	1 6 ..	3 6
Carthagenia, good	4 3 ..	4 11	2 8 ..	4 6
E. I. mossd.	3 6 ..	8 0	0 0 ..	0 0
Ceylon, crown	6 0 ..	7 0	4 0 ..	7 0
red	1 6 ..	4 0	0 0 ..	0 0
Darjeeling, red fine	3 6 ..	4 0	3 0 ..	3 9
BUCHU LEAVES	0 2 ..	1 1	0 3 ..	1 4
CAMPOR, China	25 0 ..	97 6	162 6 ..	0 0
Japan	109 0 ..	0 0	112 6 ..	0 0
Refin. Eng. per lb.	1 2½ ..	1 4	1 6 ..	1 7
CANTHARIDES, China	1 7 ..	0 0	1 10 ..	0 0
Russian	3 1 ..	3 4	4 3 ..	4 6
CHAMOMILE FLOWERS p. cwt.	40 0 ..	80 0	40 0 ..	93 0
CASTOREUM	10 0 ..	35 0	12 0 ..	26 0
DRAGON'S BLOOD, lp. p. cwt.	110 0 ..	330 0	93 0 ..	260 0
FRUITS AND SEEDS (see also Seeds and Spices).				
Anise, China Star per cwt.	85 0 ..	90 0	101 0 ..	115 0
Spanish, &c.	30 0 ..	47 0	33 0 ..	40 0
Beans, Tonquin	3 6 ..	8 6	3 3 ..	4 6
Cardamoms, Malabar				
good	6 6 ..	9 0	8 0 ..	9 6
inferior	3 0 ..	6 0	3 9 ..	7 6
Aleppy	3 0 ..	7 0	3 6 ..	8 3
Madras	2 6 ..	6 0	1 6 ..	6 0
Ceylon	2 6 ..	9 0	2 6 ..	5 7
Cassia Fistula	12 0 ..	29 0	25 0 ..	35 0
Cocculus Indicus	8 0 ..	9 3	8 6 ..	9 0
Colocynth, apple ..per lb.	1 2 ..	1 3	0 10 ..	1 8
Croton Seeds	48 0 ..	53 0	52 0 ..	0 0
Cubebs	95 0 ..	100 0	80 0 ..	85 0
Cummin	37 0 ..	40 0	38 0 ..	40 9
Fennugreek	6 0 ..	9 6	9 0 ..	13 0
Juniper Berries	10 3 ..	10 6	0 0 ..	0 0
Nux Vomica	8 0 ..	11 0	8 6 ..	10 0
Tamarinds, East India ..	8 0 ..	13 6	11 0 ..	16 0
West India	10 0 ..	12 6	11 0 ..	20 0
Vanilla, large ....per lb.	23 0 ..	32 6	25 0 ..	39 0
inferior	16 0 ..	21 6	10 6 ..	24 6
GINGER, Preserved	0 5 ..	0 7	0 6 ..	0 7½
HONEY, Chili	53 0 ..	63 0	62 0 ..	68 0
Jamaica	30 0 ..	59 0	34 0 ..	58 0
IPECACUANHA	4 6 ..	5 2	4 8 ..	5 2
ISINGLASS, Brazil	2 3 ..	4 8	2 7 ..	5 0
Tongue sort	2 6 ..	5 0	2 9 ..	5 4
East India	1 1 ..	4 10	1 0 ..	4 0
West India	2 9 ..	4 6	3 0 ..	4 10
Russ. long staple	7 0 ..	10 0	6 0 ..	10 6
inferior	0 0 ..	0 0	0 0 ..	0 0
Simovia	2 3 ..	2 6	2 0 ..	2 6
JALAP, good	1 2 ..	1 3	1 0 ..	1 3
infer. & stems	0 9 ..	1 1½	0 10 ..	0 11
LEMON JUICE	0 0½ ..	0 1½	0 0½ ..	0 1½
LIME JUICE	1 5 ..	1 8	1 2 ..	1 6
LIQURICE, Spanish per cwt.	30 0 ..	36 0	30 0 ..	36 0
Liquorice Root	16 6 ..	25 0	20 0 ..	30 0
MANNA, flaky	2 6 ..	4 6	3 6 ..	4 0
MUSK, Pod	10 0 ..	55 0	17 0 ..	60 0
Grain	35 0 ..	68 0	30 0 ..	68 0
Yunan	32 0 ..	35 0	0 0 ..	0 0
OILS (see also separate list)				
Almond, expressed per lb.	1 5 ..	0 0	2 0 ..	0 0
Castor, 1st pale	0 3½ ..	0 4	0 4½ ..	0 5
second	0 3½ ..	0 3½	0 4 ..	0 4½
Cod Liver	3 9 ..	4 0	3 6 ..	5 0

1881.				1880.				1881.				1880.			
Essential Oils:	s.	d.		s.	d.			£	s.			£	s.		
Almond.....per lb.	18	0	to	20	6	20	0	0	0	to	0	0	0	0	0
Anise-seed, star..	8	0	..	0	0	7	0	..	0	0	..	27	0	..	0
" German ..	10	9	..	0	0	0	0	..	0	0	..	26	0	..	0
Bergamot	9	0	..	19	0	0	0	..	0	0	..	25	0	..	0
Cajeput.....per bottle	4	6	..	0	0	3	6	..	4	0	..	20	0	..	21
Caraway.....per lb.	2	6	..	6	6	0	0	..	0	0	..	25	0	..	0
Cassia.....	3	9	..	4	0	2	10	..	2	11	..	0	0	..	0
Cinnamon.....per oz.	4	6	..	0	0	4	0	..	5	0	..	45	0	..	0
Cinnamon-leaf..	0	2 1/2	..	0	0	0	12	..	0	3 1/2	..	42	0	..	41
Citronelle.....	0	3 1/2	..	0	0	0	3	..	0	0	..	0	0	..	0
Clove.....	6	9	..	7	9	7	0	..	8	0	..	43	0	..	0
Lavender Exot., per lb.	1	6	..	7	6	1	8	..	7	0	..	45	10	..	46
Mitcham ..	133	0	..	0	0	0	0	..	0	0	..	37	0	..	39
Lemon.....	6	9	..	7	9	4	6	..	11	0	..	34	0	..	31
Lemongrass.....per oz.	0	3	..	0	0	0	2 1/2	..	0	3	..	36	0	..	0
Neroli.....	7	0	..	10	3	6	0	..	9	6	..	0	0	..	0
Nutmeg.....	0	5 1/2	..	0	0	0	3	..	0	4	..	0	0	..	0
Orange.....per lb.	7	3	..	11	3	5	0	..	7	0	..	0	0	..	0
Otto of Rosos.....per oz.	10	0	..	24	0	18	0	..	30	0	..	0	0	..	0
Patchouli.....	2	0	..	3	10	1	6	..	3	0	..	0	0	..	0
Peppermint:															
American.....per lb.	13	3	..	0	0	7	6	..	9	6	..	0	0	..	0
(H. G. Hotchkiss),	14	3	..	0	0	0	0	..	0	0	..	0	0	..	0
English.....	3	0	..	0	0	29	0	..	30	0	..	0	0	..	0
German.....	13	9	..	0	0	0	0	..	0	0	..	0	0	..	0
Rosemary.....	1	6	..	2	11	2	0	..	2	6	..	0	0	..	0
Sassafras.....	2	6	..	0	0	2	0	..	2	3	..	0	0	..	0
Spearment.....	13	0	..	0	0	8	0	..	9	0	..	0	0	..	0
Thyme.....	1	8	..	4	7	0	0	..	0	0	..	0	0	..	0
Mace, expressed.....per oz.	0	0	..	0	0	0	5	..	0	6	..	0	0	..	0
OPIMUM, Turkey.....per lb.	20	0	..	23	0	16	0	..	17	6	..	0	0	..	0
inferior.....	17	0	..	50	0	13	0	..	15	6	..	0	6	..	0 1/2
QUASSIA (bitter wood) per ton	9	0	..	110	0	100	0	..	130	0	..	0	0	..	0
RHUBARB, China, good and fine	3	0	..	4	7	2	6	..	4	0	..	0	0	..	0
Mid. to fair.....	1	8	..	2	11	1	3	..	2	5	..	0	0	..	0
Ordinary.....	0	9	..	1	7	0	8	..	1	2	..	0	0	..	0
ROOTS—Calumba.....per cwt.	50	0	..	61	0	40	0	..	56	0	..	0	0	..	0
China.....	23	0	..	24	0	0	0	..	0	0	..	0	0	..	0
Chiretta.....per lb.	0	9	..	0	0	0	0	..	0	0	..	0	0	..	0
Galangal.....per cwt.	23	0	..	21	0	21	0	..	22	0	..	0	0	..	0
Gentian.....	18	0	..	0	0	16	0	..	20	0	..	0	0	..	0
Orris.....	5	0	..	64	0	16	0	..	26	0	..	0	0	..	0
Pellitory.....	55	0	..	65	0	70	0	..	76	0	..	0	0	..	0
Pink.....per lb.	0	8	..	1	3	0	8	..	1	4	..	0	0	..	0
Rhatany.....	0	3	..	0	5	0	5	..	0	6	..	0	0	..	0
Seneka.....	2	8	..	2	9	2	11	..	3	6	..	0	0	..	0
Snake.....	1	9	..	1	1	0	0	..	0	0	..	0	0	..	0
SAFFRON, Valencia.....	45	0	..	50	0	35	0	..	44	0	..	0	0	..	0
SALAP.....per cwt.	100	0	..	120	0	120	0	..	160	0	..	0	0	..	0
SARSAPARILLA, Lima per lb.	0	5	..	0	6	0	5	..	0	6	..	0	0	..	0
Guayaquil.....	1	3	..	1	6	1	3	..	1	5	..	0	0	..	0
Honduras.....	1	7	..	1	9	1	2	..	1	10	..	0	0	..	0
Jamaica.....	1	6	..	1	11	1	3	..	1	10	..	0	0	..	0
SASSAFRAS.....per cwt.	4	0	..	9	0	3	0	..	3	9	..	0	0	..	0
SCAMMONY, Virgin.....per lb.	80	0	..	40	0	30	0	..	36	0	..	0	0	..	0
second & ordinary.....	10	0	..	25	0	10	0	..	25	0	..	0	0	..	0
SENNA, Bombay.....	0	1	..	0	3	0	0 1/2	..	0	2 1/2	..	0	0	..	0
Tinnivelly.....	0	2	..	1	9	0	3	..	0	10	..	0	0	..	0
Alexandria.....	0	3	..	2	3	0	3	..	1	3	..	0	0	..	0
SPERMACETI, refined.....	1	3	..	0	0	1	3	..	0	0	..	0	0	..	0
American.....	1	0 1/2	..	1	1	1	1 1/2	..	0	0	..	0	0	..	0
SQUILLS.....	0	1	..	0	2 1/2	0	1	..	0	2 1/2	..	0	0	..	0
SUMS.....	£	s.		£	s.	£	s.		£	s.		£	s.		£
AMMONIACI drop.....per cwt.	1	10	..	2	0	1	10	..	2	0	..	0	0	..	0
ANIMI, fine washed.....	19	0	..	19	10	19	0	..	23	0	..	0	0	..	0
sorts.....	10	10	..	16	10	13	0	..	18	0	..	0	0	..	0
ARABIC, pale picked.....	1	16	..	2	12	3	0	..	3	10	..	0	0	..	0
sorts, mid. to fin.....	1	16	..	0	0	2	0	..	2	18	..	0	0	..	0
TURKEY, pick. gd. to fin.....	6	10	..	9	10	7	0	..	10	0	..	0	0	..	0
second & inf.....	2	10	..	5	10	8	10	..	5	10	..	0	0	..	0
sorts.....	2	2	..	2	19	2	10	..	3	5	..	0	0	..	0
ASSAFETIDA, cm. to fin.....	0	13	..	3	10	0	11	..	3	11	..	0	0	..	0
BENJAMIN, 1st & 2nd.....	16	0	..	24	0	15	0	..	45	0	..	0	0	..	0
COPAL, Manila.....per cwt.	15	0	..	60	0	38	0	..	65	0	..	0	0	..	0
Angola, red.....	0	0	..	0	0	0	0	..	0	0	..	0	0	..	0
DAMMAR, pale.....	90	0	..	100	0	100	0	..	117	0	..	0	0	..	0
EUPHORBUM.....	38	0	..	6	0	0	0	..	0	0	..	0	0	..	0
GALBANUM.....per lb.	0	6	..	1	2	0	6	..	1	2	..	0	0	..	0
GAMBOGE, pckd. pipe per cwt.	270	0	..	310	0	300	0	..	400	0	..	0	0	..	0
GUALACUM.....per lb.	1	0	..	3	2	0	8	..	2	0	..	0	0	..	0
KINO.....per cwt.	0	0	..	0	0	0	0	..	100	0	..	0	0	..	0
KOWRIE, sorts.....	60	0	..	70	0	50	0	..	80	0	..	0	0	..	0
selected.....	115	0	..	235	0	13	0	..	215	0	..	0	0	..	0
MASTIC, picked.....per lb.	2	6	..	4	6	3	6	..	4	6	..	0	0	..	0
MYRRH, gd. & fine per cwt.	200	0	..	240	0	180	0	..	260	0	..	0	0	..	0
ord. to fair.....	75	0	..	190	0	100	0	..	175	0	..	0	0	..	0
OLIBANUM p. drop.....	66	0	..	70	0	70	0	..	71	0	..	0	0	..	0
amber & ylw.....	55	0	..	64	0	6	0	..	8	0	..	0	0	..	0
SENEGAL.....	42	0	..	57	6	57	0	..	60	0	..	0	0	..	0
SANDARAC.....	80	0	..	115	0	70	0	..	110	0	..	0	0	..	0
SHELLAC, Orange.....	157	3	..	169	0	167	6	..	170	0	..	0	0	..	0
Liver.....	132	6	..	147	6	110	0	..	147	6	..	0	0	..	0
THUS.....	0	0	..	0	0	20	0	..	21	6	..	0	0	..	0
TRAGACANTH, leaf.....	240	0	..	400	0	200	0	..	360	0	..	0	0	..	0
in sorts.....	40	0	..	210	0	40	0	..	190	0	..	0	0	..	0
ILS.....	£	s.		£	s.	£	s.		£	s.		£	s.		£
SEAL, pale.....per tun	30	0	..	31	0	30	0	..	0	0	..	0	0	..	0
yellow to tinged.....	24	0	..	29	0	27	0	..	29	10	..	0	0	..	0
brown.....	23	0	..	0	0	25	0	..	0	0	..	0	0	..	0
SPERM.....	66	0	..	0	0	72	0	..	0	0	..	0	0	..	0

Oils, continued:—

BODY	per tun	0	0	to	0	0	0	0	to	0	0
Con	"	3	0	0	0	0	0	27	0	0	0
WHALE, South Sea, pale	"	28	0	0	0	0	0	26	0	0	0
yellow	"	27	0	0	0	0	0	25	0	0	0
brown	"	22	0	0	0	0	0	20	0	21	0
East India, Fish	"	0	0	0	0	0	0	0	0	0	0
OLIVE, Galipoli	per tun	0	0	0	0	0	0	0	0	0	0
Gioja	"	42	0	0	0	0	0	45	0	0	0
Levant	"	39	0	4	0	0	0	42	0	41	10
Mogador	"	41	10	0	0	0	0	0	0	0	0
Spanish	"	42	0	0	0	0	0	43	0	0	0
Sicily	"	42	0	0	0	0	0	45	1	46	0
COCONUT, Cochín ..	"	3	0	0	3	10	0	37	0	39	0
Ceylon	"	3	0	0	0	0	0	3	0	3	10
Mauritius	"	30	0	0	0	0	0	36	0	0	0
GROUND NUT AND GINGELLY :											
Bombay	"	0	0	0	0	0	0	0	0	0	0
Madras	"	32	0	0	0	0	0	35	0	0	0
PALM, fine	"	30	0	0	0	0	0	34	10	0	0
LINSEED	"	25	0	0	25	10	0	27	0	0	0
RAPESEED, English, pale ..	"	39	5	0	0	0	0	32	0	0	0
brown	"	28	5	0	0	0	0	18	10	29	0
Foreign, pale ..	"	0	0	0	0	0	0	0	0	0	0
brown	"	0	0	0	0	0	0	0	0	0	0
COTTONSEED	"	25	0	0	0	0	0	28	0	29	0
LARD	"	53	0	0	15	0	0	41	0	44	0
TALLOW	"	28	0	0	40	0	0	0	0	0	0
		s.	d.			s.	d.			s.	d.
TURPENTINE, American, cwt.	"	35	0	0	0	0	0	22	8	0	0
French	"	0	0	0	0	0	0	0	0	0	0
PETROLEUM, Crude	"	0	0	0	0	0	0	0	0	0	0
refined, per gall.	"	0	10½	0	11	0	6	0	6	0	6½
Spirit	"	0	10½	0	11½	0	6½	0	7	0	7½



SWAN'S ELECTRIC LIGHT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—There is a slight error in your otherwise correct account of electric lighting by means of my lamps which appeared in your December issue.

It is there stated that the energy of one-horse power was required to supply the electric current to five lamps of 15 candle-power each.

This amount of motive-power would supply from 10 to 15 such lamps.

I am, &c.,

Newcastle, January 21.

JOSEPH W. SWAN.

FIRE INSURANCE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Will some reader of this journal kindly inform me if they know of any sound insurance company that will charge less premium per hundred than 10s. 6d. for property where petroleum (Royal Daylight brand only) is kept, and no benzoline.

York.

HENRY J. PRATT. 31/163.

NEW PHARMACY BILL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—As the Pharmacy Law Amendment Act, published in your columns last month, may still be subject to revision, would it not be well for chemists, as a body, to do their utmost in obtaining such protective rights at this important period as will make their calling worth the outlay in education that is required in following it?

Our position at the present time demands that legislative action should be taken, and if our representative society is trying to make some effort in the right direction, no doubt general co-operation and agitation among our numerous associations might be productive of more permanent benefit than the passing of the proposed Amendment Act, as it now stands, would accomplish.

The draft of the Bill now presented to us contains a few clauses which might be of benefit, but when we look at these as a whole what does the passing of the Bill amount to? Will chemists be in a really better position than before? We shall be privileged to sell patent medicines containing poisonous ingredients. Our examination will, perhaps, be harder, and the fees heavier, or a curriculum enforced, making the cost of our education greater. We shall enjoy exemption from jury service, and possibly a few more prescriptions may fall into the hands of those entitled to dispense them, instead of co-operative societies. These, with a few clauses more affecting the interests of the Society than chemists at large, comprise the sum total of this Bill.

Are we not led to consider, after a perusal of it, whether the advantages to be gained by such a Bill are worth the time, trouble, and expense in passing it, without at least attempting to introduce some measure that will give us a better status than we now possess, especially respecting counter-prescribing? At present we stand in a vague and undefined position with regard to this, the most lucrative, if not the most important, branch of our business. Where would the majority of chemists be without it? Is it not generally acknowledged by us that the ordinary chemists' retail is becoming more worthless every day? and is it likely that the privilege of selling poisonous drugs and medicines will do much to better such a condition? It may be years before our Society will again take any legislative steps, and, therefore, it behoves us to embrace as much as we have a reasonable right to expect in this Bill.

The Chemists' Trade Association has done a great deal to further the cause of counter-prescribing, and to vindicate our rights and privileges, such as they now are; and if the Pharmaceutical Society could be induced to take the steps suggested by Dr. Richardson before a meeting of the Medical Association when the counter-prescribing prosecutions were rife, and where he stated his opinion that these unpleasant prosecutions would never take place if the Pharmaceutical Society could make some arrangement with the Apothecaries' Company to conduct examinations conjointly, so that the chemist might qualify in medicine sufficiently to enable him to counter-prescribe—not visit—then the vexed question would be amicably disposed of, our medical brethren would be pacified with the knowledge that, being tested by one of their examining bodies, we were not infringing on their rights, and we should have a quasi-professional status which we cannot be now said to enjoy.

If some such measure were introduced in the Bill and passed, the chemist would have a reasonable chance of obtaining some return for his expensive education, and the successful chemist would more favourably compare, socially and financially, with the successful grocer than he now does.

I am, sir, faithfully yours,

CELESTER ET VALIDIU

163.

THE PHARMACEUTICAL SOCIETY AND ITS PHARMACY BILL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I will recall the written words of Jacob Bell in 1841:—

1. "The Pharmaceutical Society was founded in order that the chemists and druggists of Great Britain should be united into one ostensible, recognised, and independent body, with a view to the protection of their general interests and the advancement of the art and science of pharmacy."

2. "The ultimate object of the Society is to qualify every druggist in the kingdom as a pharmaceutical chemist."

3. "Every druggist, before he enters business, ought to be acquainted with the theories as well as the practice of pharmaceutical chemistry."

4. "There should be a Minor Examination to qualify for assistants, and a Major Examination for diploma, membership, and the right to enter business."

I will now examine how far the Pharmaceutical Society has fulfilled the programme of its founder, and whether the Pharmacy (or Poisons) Bill about to be introduced to Parliament is likely to advantage chemists as a trade or profession.

On the first paragraph I will remark that in 1841 the Society numbered 2,000 pharmaceutical chemists as subscribing members. In 1880 the Society has 1,966 pharmaceutical chemists as subscribing members, although there are 2,318 on the register. The chemist and druggist members of the Society number 805, and associates in business 1,025, making together 1,830 in the Society out of 11,154 chemists in business. Is this progress?

On the second, third, and fourth paragraphs I will say that we now have pharmaceutical chemists (qualified before 1852), pharmaceutical chemists by examination, members of the Pharmaceutical Society by election, Minor associates, and modified examination chemists—five classes. Is this progress?

Pharmaceutical chemists before 1852 will die out, modified examination chemists will stop after three years by the Council's Bill, and there will remain pharmaceutical chemists by examination, members of the Pharmaceutical Society by election, and Minor associates, all legally qualified to enter into business as chemists. I believe that the time has come to stop all further elections as members of the Pharmaceutical Society, and that that class should be allowed to die out. Also, that all entering the drug trade hereafter should, on passing the Minor examination, be registered as associates, and qualified legally to act as assistants, while all passing the Major examination should alone be qualified to enter the society and into business as pharmaceutical chemists. Also, that every drug business shall be in the registered legal charge of a pharmaceutical chemist.

Now as to the proposed Pharmacy Bill of the Pharmaceutical Society.

Clause 1. Examiners for Scotland. An unealled-for change. Useless. 2. An unjustifiable assumption of power by the Council. Unjust. 3. A desirable clause. 4. Of no importance to chemists. Useless. 5. An iniquitous clause, robbing widows and orphans of their livelihood, and interfering with freedom of trade. 6. Unnecessary. 7. Desirable. 8. A pharmaceutical chemist should be in legal charge of every pharmacy. 9, 12, and 14. Desirable. 10, 11, 13, and 15. Useless to chemists.

As the result of this examination of the Bill I conclude that the only clause of great importance in favour of chemists is the one terminating, after three years, the modified examinations, but if this is to be purchased by the continuance of the present motley assemblage of five incongruous qualifications, to conduct business by a delegation of power to the Council, to relax the intervals of time between examinations, and by defrauding widows and orphans of their rights, then I say this Bill is opposed to the interests of chemists, and deserves their determined opposition. Enclosing my card,

I am, sir, yours very faithfully,

London, February 12.

A PHARMACEUTICAL CHEMIST.

163/71. C. J. Powers, New York.—The most complete work we know giving the formulae used in the London hospitals, is P. Squire's "Pharmacopoeias of the London [and Dublin] Hospitals," 4th edition, 1879. Selected formulae are given in Kirby's "Formulary of Selected Remedies," and many are included in Beasley's "Pocket Formulary."

164/3. Preserving Milk.—Dr. Von Heyden finds that, if half to one part of dry salicylic acid be added to a thousand of milk the latter will curdle at the ordinary temperature in about 36 hours, retaining its properties, the cream separating and yielding butter perfectly. Borax and boric acid seem to be more generally used for preserving milk; a number of proprietary preservatives, analysed in 1879, by Mr. Wigner, all contained one or other. See THE CHEMIST AND DRUGGIST, 1879, p. 211. One owner directs 6 oz. of pure boric acid to be dissolved in a gallon of warm water, and, according to the weather, half a gill to a gill of the solution to be added to every gallon of milk.

15/164. Disputed (Margate).—While it may be right to discuss the principle of the proceedings you refer to, we do not think it desirable to attack any individual for the method in which he chooses to conduct his business, so long as that method is within the limits of honesty.

263/14. Alpha wants the formula of Scott's oils, or, if they are a patent, the address of the maker.

THE PATENT MEDICINE DIFFICULTY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Having read the views of Mr. W. C. Hebdon on the patent medicine difficulty I think all chemists will thank him for ventilating the subject, but I consider his scheme far too elaborate, and open to several objections, a few of which I will name.

1. With regard to wholesale houses, it would be unfair to restrict orders to a favoured house or houses.

2. It would be equally unfair, and also somewhat dictatorial, to ask proprietors to only supply the said favoured house.

3. Could we blame the wholesale houses, thus left out in the cold, if they went over to the enemy?

Mr. H. thinks that it would be dangerous to have too many houses from whence to seek the supply. I do not think so, if the alteration I offer to his scheme were accepted. He also thinks that proprietors would listen to chemists in preference to stores. Here again I think he errs, for unfortunately the half of the trade, we may safely say, has now passed, in many instances, in large towns into the hands of these stores, so that the proprietor would balance the one party against the other, and choose the one he thought would pay him best. I do not make these remarks to condemn the system advocated, but as suggestions of improvement. I thoroughly agree that the great thing needed is unity, organisation, and energy. I would suggest that an association be formed with as little delay as possible; that an executive be elected, and authorised to appoint a deputation to wait upon wholesale houses, asking them if they will agree to supply patents to chemists only if the proprietors will undertake to supply the said wholesale houses only. There is one great difficulty that might weaken and destroy the whole movement, that is, how are we to keep all parties loyal to their promise, and would it not be easy, even if they were loyal, for an intermediate person to step in and act as go-between the stores and the wholesale house by professing he was buying for a chemist? Of course we may answer, "But we should soon find him out." The mischief, however, would be done. The suggestion I have to offer to obviate this would be for proprietors to have a distinct label on each article stating that they were only sold by chemists, and also the price, with a caution to the public that any sold by others than chemists, or under the stated price, they would not be answerable for as genuine. I think proprietors would meet us in this way, as they must now see that, if the present unfortunate state of the trade continues, they will be the ultimate losers.

Allow me, in conclusion, to thank you for giving the question the greatest publicity.

Yours respectfully,

Driffield, February 1.

JAMES ASHER.

SIR,—As tending to prepare the way for carrying out a scheme of the kind proposed by Mr. Hebdon, would it not be well for all chemists interested in the matter immediately to search for a few wholesale houses who do not call upon grocers for their orders, or who are willing to give up the custom, and, on finding any, if such there be, to restrict their business to them?

Please add my name to the list of chemists desirous of joining in the suggested undertaking.

Yours truly,

January 17.

FREDERICK J. JACKSON.

Messrs. Wilson & Son, Harrogate, would like to know what sort of tap has been found best for turpentine, and also what sort is best adapted for oils, in the experience of any reader who will kindly give the information.

70/162. *Chemicus* (who writes on the Spectacle Trade) draws conclusions which it would not be fair to publish. For ourselves we consider that the letter, with name and address attached, at least balances the previous anonymous insinuations.

Aetor, Glasgow (11/164), asks, "Could you acquaint me with the name of medicine, drug, &c., to cause a nervous fit, and the name of medicine, drug, herb, &c., to take one out of the said fit?" We should suggest for the first part of the operation repeated doses of *mistura vini gallici*, and for the restoration *submersio in aqua frigida*, or *applicatio aque fontanae ad capitem aëris*, quantum suff. Seriously, we should like to understand what experiments this correspondent proposes to attempt.

Inquirer (31/264) asks:—"What is used on red-hot iron to cause it to be black through it when cold? A customer of mine requires some. If not willing to give the composition of this powder will some one kindly inform me where it can be obtained? The intending purchaser used it when a workman at an ironfoundry, where it was known as 'physic,' but cannot procure it now."

Dens Leonis (10/163).—The test employed for the detection of morphia in the syrup was potassium iodohydrargyrate, the syrup being first freed from colouring matter by dialysis.

164/45. *R. R.*—**Liniment of Potassium Iodide and Soap.**—This nearly always separates if made with Castile (i.e. vegetable) soap. Curd soap, *sapo animalis*, made from Russian tallow, was introduced into the

Addendum to the Pharmacopœia expressly to meet this difficulty, and by using it you will probably succeed in getting a liniment which does not separate.

264/5. **Cachous.**—*Dental* asks for a formula for bouquet cachous. The following, for "Cachous de Bologne, Pastilles de cachou aromatiques des Italiens, Pastilles pour les fumeurs," is given in Hager's "Handbuch," from Dorvault:—

	Parts
Take extract of liquorice root	100
Dissolve in warm water	100
Add powdered catechu	30
Gum arabic	15

Evaporate in a warm bath to an extract, adding

	Parts
Cascarilla bark	2
Vegetable charcoal	2
Orris root	2
Mastic	2

And when nearly cold add

Peppermint oil	2 parts
Tincture of ambergris	10 drops
Tincture of musk	10 "

Cut the mass into pieces of a suitable size and shape. These will, of course, be black or dark coloured. It has recently been noticed that thymol has a powerful deodorising effect on tobacco smoke.

We shall be glad to hear from any reader who has had experience in making these things.

163/63. *Student*.—The *Analyst* is published by Baillière, Tindal, & Cox, King William Street, Strand, W.C., price 6d. monthly, or 5s. a year, post free.

163/99. *W. H. T.* wishes for formulae for fruit syrups made from the artificial essences. Can any reader supply them? Formulae for the manufacture of the essences are given in *THE CHEMIST AND DRUGGIST* for 1879, page 326.

158/70. **Glue Turning Mouldy.**—*Sheffield*.—Subscriber writes:—"I shall feel much obliged if you will tell me what will keep glue from going mouldy and forming a fungus. I may tell you what I have used: oil of cloves, salicylic acid, carbolic acid, also a small proportion of spirit of wine, all to no purpose.—Carbolic acid is the most powerful known preventive of fungoid growth, and if this has been added in fair quantity, enough, for example, to make the finished glue smell distinctly of it, we can suggest no other remedy. If the acid has been used in very small quantities, it will be worth trying a fresh lot with a larger proportion of the antiseptic."

160/9. **Acidum.**—So far as we can ascertain there is no essential oil or essence of fenugreek in the market. The seeds contain a fatty as well as the volatile oil, and the two might be easily extracted by percolating with petroleum ether, and allowing the solvent to evaporate, or distilling it at a very low temperature. The fatty oil can, we believe, be obtained of the dealers. Messrs. Domeier & Co., of 3 Botolph Lane, can probably give further information.

163/64. *F. W. H.*.—The separation of the salt from water in which salt meats have been boiled, by the method of dialysis, has already been suggested. Bladder is hardly strong or uniform enough for use as the dialysing membrane; vegetable parchment, strengthened at weak points by bichromated glue, is much better. The practical difficulty in the way of adopting this plan in the merchant service is the comparatively large amount of fresh water needed to remove the salt from any quantity of broth quickly enough to anticipate putrefaction. As a rule, the fresh water would be more valuable than the broth. The process of salting has already replaced the potassium by sodium salts in the meat, so that there is no loss from this cause.

164/18. *J. E. E.* asks what can be added to mutton fat so that when melted it shall be deprived of the tallowy odour. [The tallowy odour only appears when the fat is beginning to turn rancid; fresh mutton fat is inodorous. If it be taken when quite fresh, properly "tried out," and preserved by the addition of a little benzoic acid or thymol, it will keep indefinitely. We do not know how mutton fat, which has become odorous, can be restored.]

155/25. *J. D.*—**Ext. Coloc. Co. P.L., 1836.**—The following is the formula:—

Colocyath, cut in pieces	6 oz.
Purified extract of aloes	12 oz.
Scammony, powdered	4 oz.
Cardamoms (husked), powdered	1 oz.
Soap	3 oz.
Proof spirit	1 gallon

Macerate the colocynth in the spirit with a gentle heat for four days; strain in the spirit, and add it to the aloes, scammony, and soap; afterwards evaporate to a proper consistence, the cardamoms being mixed towards the end.

164/46. *C. R. S.*—**Nine Oils**, otherwise called **Old Mixed Oils**, **Oleum ex Omnibus**.—Cooley and Gray's "Supplement" give the following formulae:—

	Cooley	Gray
Train oil	1 gall n	23 lbs.
Oil of turpentine.. ..	1 quart	6 lbs.
Oil of amber	5 oz.	1 lb.
Oil of bricks	5 oz.	1 lb.
Oil of spike	2 oz.	—
Oil of origanum	2 oz.	—
Barbadoes tar	2½ lbs.	7 lbs.
Oil of vitriol	2 oz.	2 oz.
Camphorate l spirit	½ pint	2 lbs.

Shake well, and after a few days decant the clear portion.

Seven Oils and Moore's, or More's Ointment.—Can any reader supply formulae for these?

164/18. *Apprentice*.—At present anyone may become an analyst who can make the public believe he is able to analyse. The Institute of Chemistry has established rather high-class examinations for those who desire to become members. The subjects of the examination are almost solely practical analysis, and can hardly be mastered except by a thorough laboratory training.

For the Bell Scholarship we should recommend Oliver's "Botany," with Prantl and Vine's or some larger text-book, as Bentley or Sachs'; Roseoe's "Chemistry," with one of the pharmaceutical text-books and the Pharmacopœia. The smaller books should be mastered, the larger used only for reference.

162/58. **Lime juice and Glycerine**.—During 1878 this article was much discussed in our columns. The three following formulae are the best then supplied:—

I.

Almond oil and olive oil, of each	12 oz.
Lime water	10 oz.
Saccharated solution of lime	2 oz.
Essence of lemon and oil of jasmine, of each	2 drachms

Mix the solutions of lime in a Winchester quart; pour in the oils little by little, shaking thoroughly after each addition; lastly, add the perfumes. If well shaken during manufacture, the water in this preparation will never separate, but on standing a layer of clear oil appears over the white opaque emulsion, with which it easily mixes on gentle agitation.

II.

Ounces

White wax	1
Almond oil	20
Glycerine.. ..	2
Lime water	22
Essence of lemon	½

Melt the wax and oil together, add the lime water and glycerine, and shake well. This is not inseparable.

Both 1 and two are occasionally liable to what looks like fermentation, blowing out the corks or bursting the bottles. A correspondent stated that this is due to the ready decomposition of the essence of lemon, the omission of which prevents the change.

III.

White wax	½ oz.
Almond oil	8 oz.

Melt gently, and while still warm add—

Glycerine.. ..	1 oz.
Citric acid	33 grains

Dissolved in—

Rose water	3 oz.
Alcohol	½ oz.
Essence of lemon	2 drachms
Oil of bitter almonds	4 drops

Mix by frequent shaking. This forms a white syrupy inseparable emulsion.

162/60. *J. H.* wishes for a formula for **Red Marking-ink**, which will answer for marking warps, and will not come off during the sizing process they afterwards undergo.

163/53. **Sinapis**.—**Cubeb Paste** for gonorrhœa. The following formula for boli artigonorrhœici is given in Hager's "Handbuch," and may answer the purpose:—

	Parts
Copaiba balsam.. ..	10
Yellow wax	10

Mix by the aid of a gentle heat and a aid—

Powdered cubeb	50
----------------------	----

The mass can be divided into boluses of any suitable size.

Essence of Mustard for chilblains. Can any one supply a recipe for this? One for Whitehead's essence is given on page 81 of the current Diary.

We have been unable to supply formulae of the patents and proprietary articles named below, which have been recently asked for by various correspondents. We should be glad if any of our readers could supply the information:—

Bate's salve.
Line Inshire remedy for hydrophobia.
Ridge's food (working formula).
Neave's food.
Nestlé's food.
Genuine D. blk. beer.
Liquid gum which will not turn mouldy or thin.
Syr. hypophosph. co. Fellows.
Draper's dichroic ink.
Toy dynamite (paper twists to explode on concussion).
Penning's powders.

253/18. *J. S. A.*—Have you overlooked the collection of formulae in our current Diary and the numbers of "Formulae for Secret Remedies" we have been publishing during the last two years? We cannot give you, but have asked for, the special information you desire.

264/25. *Fœtus* will see that his last month's query is repeated in another place. He may be sure that if we had the information we should publish it, but he will see that it is too valuable to be likely to fall into our hands.

Quintum is simply a mixture of the total alkaloids contained in the bark, extracted by means of slightly-acidulated water, and precipitated by caustic soda. Sulphate of quintum is quite unknown to us.

A paper by Dr. De Vrij, on "The Detection of Amorphous Quinine," was read at the last Conference, and is reported on pages 382, 383 of our 1880 volume. In the discussion Mr. Fletcher said that the readiest test for the presence of the amorphous alkaloid was its taste, which is as distinct from that of crystallisable quinine as quassia is from ales. Dr. De Vrij's test, there given, is the best we know of.

161/29. **Silver-plating**.—Would any reader oblige "Argentum" with a good form for a silver-plating solution, without the use of a battery. The following was recommended, but entirely failed, the cyanide of silver did not dissolve, and when a piece of sheet copper was immersed in the compound no action was set up. The following was the form tried:—

I.

Argent. pur.	3j. 40 gr.
Argent. oxyd	3ij. 40 gr.
Acid. nitric pur.	3vj.

Dissolve.

II.

Argent. cy nidl.	5j.
Ammon. carb.	20 gr.
Aqua dest.	1j oz.

Dissolve each solution separately, then throw the two together. When required for use pour out a small quantity into a glass measure, in which insert a small piece of sheet copper, as soon as effervescence begins apply with a piece of flannel, then polish with a dry leather.

164/52. *W. & W.*—**Shenandoah Root** is probably a fancy name. Not long ago a prescription ordering extract of Sasquehanna root was distributed largely over the country with directions to procure it from a certain firm. When a specimen of the root was obtained it turned out to be Silligia. The prescription ordering ext. Shenandoah root is probably a similar advertising dodge.

164/49. *Jamaica* would be glad to know how to make a good nitrate of mercury ointment with vaseline, or some similar petroleum product, in place of lard and oil.

A SLIGHT MISUNDERSTANDING.—A young lady went to a drug shop and had a prescription filled. "How much is it?" inquired the young lady. "One and twopence," said the clerk. "But I have only one shilling with me," replied the customer; "can't you let me have it for that?" "No, ma'am; but you can pay me twopence when you come in again," said the clerk. "But suppose I were to die," said the lady, jocularly. "Well, it wouldn't be any great loss," was the smiling response. And immediately the smiling clerk gathered, from the indignant flash of the lady's face, that he had been misunderstood, and before he could assure her that it was the little balance and not her that was no great loss, she had bounced out at a go-as-you-please gait, and was beyond the sound of his voice.

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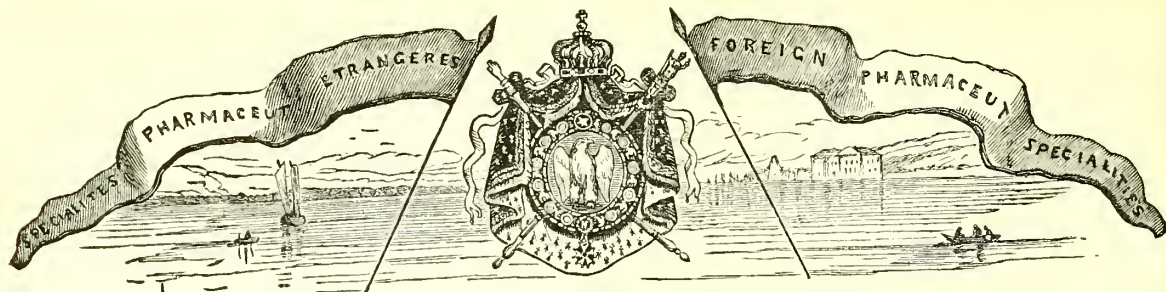
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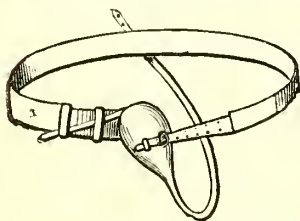
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JAMES WOOLLEY, SONS & CO.,

DRUG GRINDERS AND MANUFACTURING PHARMACEUTICAL CHEMISTS,

MANCHESTER.

ED. LOEFLUND'S (of Stuttgart) GENUINE EXTRACTS OF MALT.

LOEFLUND'S EXTRACT OF MALT, plain, Extr. Malti Pharm. Germ., 2s. 6d.

LOEFLUND'S EXTRACT OF MALT with Pyrophosphate of Iron, 2s. 9d.

LOEFLUND'S EXTRACT OF MALT with Hypophosphite of Lime, 2s. 9d.

LOEFLUND'S EXTRACT OF MALT with Cod Liver Oil, 2s. 6d.

MR. LOEFLUND, in the manufacture of his Extract, follows the special directions of Baron Liebig, who personally proposed to him, as early as 1866, the production of this Dietetic, the superiority of which has since been recognised by First Class Medals awarded at the Exhibitions of Paris, 1867; Moscow, 1872; Vienna, 1873; Philadelphia, 1876, &c.

LOEFLUND'S EXTRACT, in preference to many others, is not subject to fermentation or deterioration in any climate.

The Group Judges of the Philadelphia Exhibition, in their reports upon LOEFLUND'S EXTRACTS OF MALT, stated the following:—

"Among all the preparations of Malt this has most fully met the requirements claimed for this
"most valuable agent. "JOSEPH F. TOBIAS."

"Commended for the manufacture of these products on scientific principles.
"Dr. von WAGNER."

Orders to be addressed to the following Dépôts:—BARCLAY & SONS; BUTLER & CRISPE; W. EDWARDS & SON; EVANS, LESCHER & WEBB; LYNCH & Co.; W. MATHER; S. MAW, SON & THOMPSON; R. H. MILLARD, SON & APPLETON; F. NEWBERRY & SONS; JOHN SANGER & SONS; and W. SUTTON & Co., London.

M. H. HENRY SULTZBERGER, of 110 CANNON STREET, LONDON, E.C., OPIUM } IMPORTER AND { OPIUM EXPORTER OF {

Begs to inform the Trade that, in consequence of the steady falling off in the intrinsic value of Turkey Opium, he has successfully tried the Eastern qualities, of which he is now prepared to supply one pound sample tins.

Further particulars will be furnished upon application.

EVANS'S EXTRACT OF MALT.

Strongly Recommended in Asthma, Bronchitis, Consumption, Atrophy, Indigestion, and in Stomach Coughs.

(Vide Report of Professor Attfield, Ph.D., F.C.S., Professor of Chemistry to the Phar. Soc. of Great Britain.)

Nov., 1872.—"EVANS'S EXTRACT is incomparably more valuable than any preparation of Malt hitherto offered to the public."

EVANS'S STYPTIC.

The introduction of this Preparation to the notice of the Profession for every variety of bleeding arose from the desire expressed by several eminent Physicians and many patients to obtain an efficient Styptic at a moderate price—Ruspi's celebrated Styptic being so costly.

P. C. SMYLY, M.D., &c. Surgeon to the Meath Hospital, writes:—"I find it of the greatest use, in fact, in every instance was equal, if not superior, to Ruspi's Styptic."
T. P. MASON, M.D., &c. Physician to Mercer's Hospital, writes:—"The Styptic you had the goodness to forward to me, I found highly advantageous in the Hemorrhage of Phthisis."

Circulars of these Preparations may be had on application.

JOHN EVANS, Chemist to H.R.H. the Prince of Wales, &c.,
49 Dawson Street, Dublin, Ireland.

AGENTS, U.S.A.—WYETH & BROTHER, PHILADELPHIA.

WILLIAM GRAHAM CARR & SONS, PHARMACEUTICAL CHEMISTS,

MANUFACTURERS AND IMPORTERS OF

NORWEGIAN COD LIVER OIL, BERWICK-ON-TWEED.

Prize Medal Paris Exhibition.

ESTABLISHED 1793.

Our New Oil, 1881, is to arrive about the 24th. We have received orders now for over 1,000 gallons.

DAVIDSON'S COMPOUND

COD LIVER OIL EMULSION

Is the BEST AND MOST SALEABLE PREPARATION of the kind that has yet been introduced.

Special Terms to Chemists undertaking the introduction of this valuable Preparation. Arrangements are also made whereby an immediate demand is created, and the Chemist who acts as Agent is involved in no risk whatever.

PREPARED ONLY BY

JAMES N. DAVIDSON, DUNDEE,

And Sold in Bottles at 2s. each.

DENOUL'S MEDICINAL CAPSULES ARE THE BEST AND CHEAPEST.

Attention is called to the following Articles:—

	Trade Price,	Retail.
Peruvian Mixture Capsules	12/ & 9/	3/ & 2/
Matico Oil and Copaiba Capsules.....	13/	3/
Santal Oil Capsules (36 in each box)	25/	4/6 to 6/6
Cubeb Oil and Copaiba Capsules	9/	2/ to 2/6
Copaiba, Cubeb Oil, and Santal Oil Capsules	17/	4/ to 4/6
Copaiba Capsules, No. 0.....	7/	1/6
" " No. 1.....	6/6	1/3
" " No. 2.....	6/	1/
Copaiba, Alum and Cubeb	7/	2/
Compound Ferruginous	7/	2/
Cubeb Oil	11/	2/6
Male Fern Oil	12/	3/
Cod Liver Oil.....	6/	1/6
Castor Oil	5/6	1/3
Denoual's Injection (to ensure a radical cure in two days).....	18/	2/0

ALL DRUGS WARRANTED TO BE GENUINE.

Jules Denoual, Carlton House, 4 New Cross Rd., London, S.E.

EAU DE COLOGNE

OF THE MOST ANCIENT DISTILLER,

JOHANN MARIA FARINA,

Opposite the Jülichs Place, COLOGNE.

ESTABLISHED A.D. 1709.

PRIZE MEDALS:—LONDON, 1851 AND 1862; OPORTO, 1865; PARIS, 1867.

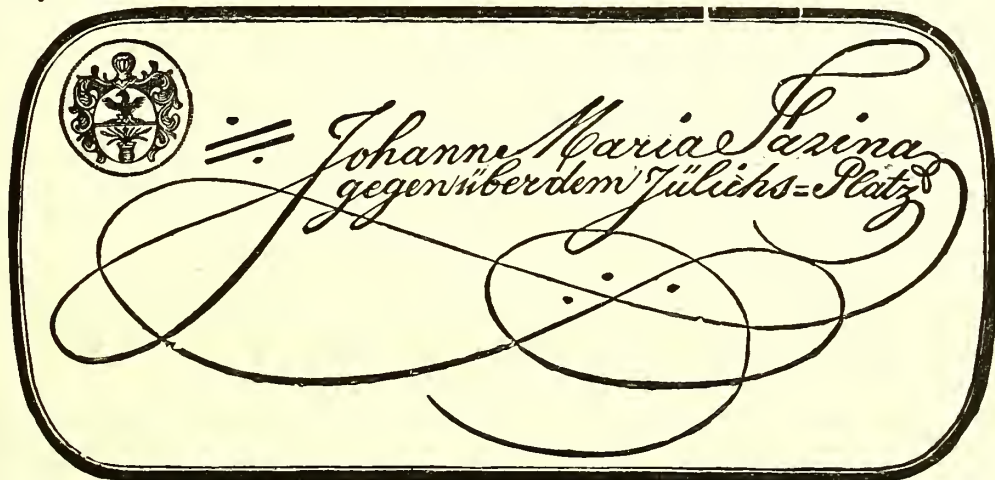
By appointment, Sole Purveyor to Her Most Gracious Majesty Victoria, Queen of Great Britain & Ireland; Their Royal Highnesses the Prince and Princess of Wales; William, King of Prussia;



Albert II., King of Saxony; Alexander II., Emperor of Russia; Francis Joseph, Emperor of Austria; Lewis, King of Portugal; H.R.H. Frederick William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, I beg to submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the protection of which I have instituted thirteen suits in the High Court of Chancery, all of which have been decided in my favour.



All similar Labels being more or less imitations of the same, I shall proceed as before against all persons selling or exposing for sale any such imitations.

I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709, when it was invented by my ancestor.

Orders equal to at least 12 dozen short bottles will be promptly executed at 12s. 6d. per dozen, against my bill drawn at three months from the date of invoice, delivered free on board the export ship, at Rotterdam, Antwerp, Hamburg, or Bremen, no charge being made for the case and packing, but insurance charged extra. 7½ per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.

I may add that, as I do not draw on the Colonies, all Orders must be accompanied by a credit on some London House, or permission to draw on same at three months.

The Goods can also be shipped in transit through London at a very small additional expense, full particulars of which may be obtained of my Sole Agents for Great Britain and Ireland:—

MESSRS. J. & R. McCracken,

No. 38 Queen Street, Cannon Street, London, E.O.

The following are the sizes of my bottles:—

No. 1. Long Green Flasks	12 bottles	} to one dozen,
" 2. Short White Bottles	...	...	...	...	...	12 "
" 3. Double ditto	...	...	...	...	...	6 "
" 4. Wickered Bottles (small)	...	...	...	...	...	8 "
" 5. ditto (medium)	...	...	...	...	...	4 "
" 6. ditto (large)	...	...	...	...	...	2 "

JOHANN MARIA FARINA.

Opposite the Jülichs Place.

Dispensers should please note that

LIEBREICH'S SYRUP OF CHLORAL

is prepared only by CORBYN, STACEY & CO., and is "Guaranteed by Liebreich as the purest form of the drug." STRENGTH—Ten grains of Chloral in each Fluid Drachm or Measured Teaspoonful.

Bottles, 3/6 and 2/- each, and 1-lb. Bottles for Dispensing, with the signature of Dr. Liebreich.

PEPSIN-ESSENZ—Liebreich.

"The researches of PANUM and PREYER have shown that of the various solutions the BEST is the Pepsin-Essenz of OSCAR LIEBREICH."—*British Medical Journal*.

Bottles, 2/6 each.

CHAULMOOGRA OIL—Ol. Gynocardia.

The official remedy in India for Leprosy, Scrofula, Skin Diseases, and Rheumatism. Such cases have recently been successfully treated by CORBYN & Co.'s PURE OIL and Preparations.

The Pure Oil, in Bottles, 4/6, 10/6, 20/- each. Ointment, in Pots, 1/0, 3/-, 10/6 each.

Perles (containing the Pure Oil), in Boxes, 2/-; Bottles, 5/-, 22/6, and 40/- each. Soap, 1s. Tablets.

CORBYN'S MALT EXTRACT—prepared in vacuo.

This is supplied pure or in combination with Cod Liver Oil, Iron, or the Hypophosphites. In Bottles, at 2/- each.

EUONYMIN—DAMIANA—GRINDELIA—MENTHOL.

CORBYN, STACEY & COMPANY, Wholesale and Export Druggists,
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General Prices Current of Drugs and Preparations forwarded on application.

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CLARKE'S WORLD FAMED BLOOD MIXTURE, *The Great BLOOD PURIFIER and RESTORER.*

(Registered Trade Mark—"BLOOD MIXTURE.")

The Celebrated CURE FOR Scrofula, Scurvy, Blood and Skin Diseases, and Sores of all kinds.

Wholesale of all the Wholesale Houses, at 24s. and 108s. per dozen, less the usual discount.

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Counter Bills and Posters, with Name and Address, also Show Cards, on application. Printed matter supplied in any Language for Foreign Agents.

CAUTION.—Mr. CLARKE will take immediate proceedings against all persons pirating his Trade Mark, "Blood Mixture," Labels, Wrappers, &c., or Advertisements, or in any way infringing his rights.

THE ACME OF PERFECTION.

SHAPED PLASTERS.

Emp. Belladonnæ, Opium, &c.

Spread on White Leather, with

ADHESIVE MARGIN.

Shape	Size	Shape	Size
Square	4 1/2 x 6 1/2	Oblong	6 1/2 x 11
Oval	5 x 7	Heart	7 x 13 1/2
Saddle	4 1/2 x 9 1/2	"	5 x 7
Oblong	4 1/2 x 7	"	6 1/2 x 8 1/2
"	5 1/2 x 9 1/2	For Breast	7 diameter
"	6 x 8 1/2		

Terms on application to the Sole Manufacturers,

GOOSEY & ROGERS, Chemists,
Stepney, London, E.

Can be ordered through any Wholesale House.

J. ROBBINS & CO.
OXFORD ST 372

METHYLENE

(BICHLORIDE).

Discovered to be a general Anæsthetic by
Dr. RICHARDSON in 1867.

1-lb. Bottles, 16s.; 8-oz., 8s. 6d.; 4-oz., 4s. 6d.; 2-oz., 2s. 6d.

COMPOUND ANÆSTHETIC ETHER.

For producing Local Anæsthesia.

In 4-oz., 10-oz., and 20-oz. Stopped Bottles, 2s., 4s., and 7s.

OZONIC ETHER.

4-oz. and 16-oz. Stopped Bottles, 3s. 6d. and 12s.

PEROXIDE OF HYDROGEN.

First introduced as a Medicine by Dr. RICHARDSON.

ETHYLATE OF SODIUM

(Dr. RICHARDSON'S Formula), for removing Nævi, &c. In 3-oz. and 1-oz. Bottles, with elongated Stoppers for applying the Caustic, 2s. 6d. and 4s.

STYPTIC COLLOID.

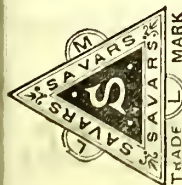
For promoting the Healing of Wounds by the first intention.

In 2-oz. and 4-oz. Bottles, with brush, 2s. 6d. and 4s. 6d.; 16-oz., 12s.

CHARCOAL CAPSULES.

Containing pure Vegetable Ivory Charcoal. In Boxes, 2s. 6d. each.

J. ROBBINS & CO.
OXFORD ST 372



SAVARS' PROPRIETARY SPECIALITIES.



SAVAR'S ANIMAL SOAP (NON-POISONOUS).

For Washing Dogs and other Domestic Animals. 6d. Packets; 3s. 9d. doz.

SAVAR'S BREAST EXHAUSTERS.

Fitted with the Latest Improvements. 1s. each; 7s. 6d. and 8s. 6d. per doz.

SAVAR'S CAMPHOR CASKETS.

Prevent Infection and relieve Catarrh: 6d. and 9d. each; 3s. 6d. and 6s. per dozen.

SAVAR'S CARBOLIC ACID SOAP.

For Domestic Use. Superior quality (containing 8 per cent. of Acid). 6d. per lb.; 4s. 6d. per dozen. Toilet 4d. Tablets; 2s. 9d. per dozen.

SAVAR'S CHEST PROTECTORS.

Manufactured from best materials. 1s. to 5s. each; 7s. to 45s. per dozen.

SAVAR'S COAL TAR SOAP.

Prepared from an Original Formula; a most elegant and agreeable Toilet Disinfectant. In Tablets, 4d. and 6d. each; 2s. 9d. and 5s. 9d. per dozen.

SAVAR'S COLD CREAM.

Delicately Perfumed with Otto of Roses. Pots, 6d. and 1s. each; 3s. 9d. and 7s. per dozen.

SAVAR'S CORN AND BUNION PLASTERS.

Best White Felt. 6d. Boxes, 2s. 3d., 2s. 10d., 2s. 8d., and 3s. 6d. per dozen Boxes; and in bulk, 1s. 8d. to 5s. 6d. per gross.

SAVAR'S FEEDING BOTTLES.

These Feeding Bottles are fitted with the best quality of Materials, and are acknowledged by all to be superior to any others offered at the same prices.

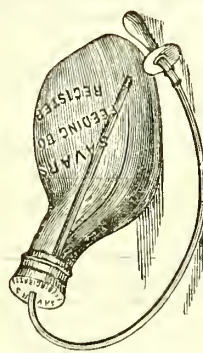


FIG. 1.

May be had either as Fig. 1 or Fig. 2, fitted with White India-rubber Tubing and Teats, or with Native Black India-rubber Tubing and Teats.

Retail, 6d., 1s., and 2s. each; 3s. 6d., 4s., 7s. 6d., 8s. 6d., and 17s. per dozen.

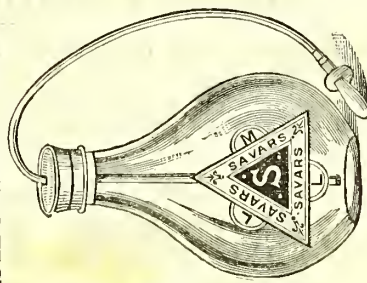


FIG. 2.

SAVAR'S FLORAL POMADES.—Handsomely labelled. In 1s. and 6d. Bottles; 8s. and 4s. per dozen

SAVAR'S FLY PAPERS.—For the Destruction of all kinds of Insects. The Cheapest and most Effectual made. 15s. per 1,000.

SAVAR'S FOSSILINE CORN PLASTERS.—Easily applied. Superior to any others. Boxes, 1s. each; 8s. per dozen.

SAVAR'S FOSSILINE PLASTER.—Highly recommended by the Medical Faculty as superior to other Plasters. Boxes, 9d. each; 6s. per dozen.

SAVAR'S FOSSILINE POMADE.—Prevents the Hair Falling Off. The most Economical Pomade. Bottles, 1s. and 6d. each; 8s. and 4s. per dozen.

SAVAR'S FOSSILINE TOILET SOAP.—Highly Emollient. 6d. Tablets, 1s. 6d. and 5s. Boxes; 4s., 13s., and 48s. per dozen.

SAVAR'S "GOOD SAMARITAN" PATENT POROUS PLASTERS. Adhere readily, and are manufactured from the best materials—free from Indiarubber. BELLADONNA, CAPSICUM, or STRENGTHENING, 4d. each; Belladonna and Capsicum, 27s. Strengthening, 21s. per gross.

SAVAR'S "GOOD SAMARITAN" PROTECTORS (NEW SHAPE). Effectually Cover Chest and Back. 2s. 6d. to 7s. 6d. each; 21s. to 68s. per dozen.

SAVAR'S PERFUMERY.—The most lasting and agreeable. 6d. and 1s. Bottles; 4s., 8s., and 8s. 6d. per dozen.

SAVAR'S POROUS MARGINAL PLASTERS, ON LEATHER. BALSAMIC, BELLADONNA, CAPSICUM, ROBBER, &c., all shapes, far superior to any other kind of Marginal Plaster.

SAVAR'S TOILET SOAPS.—Brown Windsor, Castile, Curd, Glycerine, Honey, Oatmeal, Transparent Glycerine, &c., delicately Perfumed. In 2d., 3d., 4d., and 6d. Tablets, 1s. Bars, and 1s. Boxes.

SAVAR'S VIOLET POWDER.—Deliciously Perfumed Starch Powder only. 1/4-lb. and 1/2-lb. Packets, 1s. per lb.

The Trade are solicited to state distinctly when ordering that SAVAR'S Articles are required, and are cautioned that each Article is protected with the Trade Mark as above.

Less Ten per cent. Discount, Three Months' Current Accounts. Special Discount to Large Buyers.

A COMPLETE PRICE CURRENT OF DRUGGISTS' SUNDRIES, PROPRIETARY ARTICLES, PATENT MEDICINES, &c., SUPPLIED ON APPLICATION.

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The Chemische Fabrik auf Actien, vormals E. Schering, Berlin,
MANUFACTURERS OF
SCHERINGS' PURE CHEMICALS

PARTICULARLY OF

ACID, CARBOLIC or Phenol Absolut.	Fine white hard crystals	Free from Cresylic Acid. Watery solution will not show greasy spots floating on top.
ACID, GALLIC	Almost white needles	Freely and entirely soluble in alcohol or water.
" PYROGALLIC	Bi-sublimed, white, bulky	Ditto ditto ditto.
" SALICYLIC (Kolbe's)	White, powder, crystallised, and dialysed	Dissolves colourless in water or alcohol; purest for medicine.
" TANNIC	Lightest crystals	Dissolves almost colourless in water, alcohol, and ether.
" "	Powder and granulated	Dissolves freely in water, alcohol, and ether.
CELLOIDINE (Patent)	Gelatine plates	Purest Pyroxylin; inexplusive.
CHLORAL HYDRATE	White cake and crystals	See Liebreich's, below.
CHLORAL HYDRATE (Liebreich's)	Transparent rhomboids (facsimile of Dr. Liebreich's)	Will not decompose by age.
CHLOROFORM (ex Liebreich's Chloral)	Schering's original label	Free from foreign chlorides. Will leave no odour on evaporation.
CROTON CHLORAL	Shiny crystalline scales. (Powder form most objectionable)	Free from foreign chlorides.
GLYCERINE	S.G. 1260, double distilled, brilliantly white, odourless; also lower S.G. and qualities	Free from lime, chlorides, metals; will stand severest chemical tests.
IODINE	Resublimed, fine scales	Purest.
ODOFORM	Dry yellow scales	Purest, by medical reports.
POTASS, BROMIDE	Fine white dry regular crystals ...	Perfectly free from iodide, and the most free from chloride.
" CAUSTIC	Lump and stick, white	Commercially pure, and pure by alcohol.
" CYANIDE	Ditto ditto	30%, 45%, 60%, and 95%.
" PERMANGANATE	Large and small crystals	Chemically pure.
" IODIDE	Fine white dry regular crystals ...	Apply Barytic and other tests. This will never change colour.
SILVER, NITRATE	Fine large crystals	63 to 63½% pure silver.
SODA, CAUSTIC	Lump and stick, white	Chemically pure, and pure by alcohol.
SODA SALICYLATE, and other Salicylates	White powder and crystals	Freely soluble in water and alcohol.

H. FINZELBERG, of Andernach-on-Rhine,

MANUFACTURER OF

ERGOTINE , pure Dialysed ...	Brown colloid, purified by Dialysis	Free from all saline matter present in the ordinary Ergotine and extracts.
FERRUM OXYD. (5% Dialysed)	Transparent brown liquid, purified by Dialysis	Free from all saline matter. Diluted by ten times its weight of water, will stand the test of Nitrate of Silver.
PEPSIN PORCI (100%)	White, sweet, odourless powder ...	Freely soluble in water, not hygroscopic, and will not deteriorate; will dissolve (by Wittstein's test) 100 parts of white of egg and 250 parts of fibrine,

GUSTAV RHODIUS, of Burg Brohl.

MANUFACTURER OF

POTASS, BICARBONATE ...	White powder and crystals	Dissolves bright in water.
SODA, BICARBONATE	Purest white powder, taste neutral, speciality for Soda powder	See tests P.B.
SODA, CARB. (purest)	Dry, for pure Soda Salts	Indifferent to Nitrate of Silver and Chloride of Barium.

SOLE WHOLESALE AGENTS—

A. & M. ZIMMERMANN, 21 MINCING LANE, LONDON, E.C.

For Quotations, &c., apply to Wholesale and Export Drug and Chemical Houses.

THE MOST PERFECT NON-ALCOHOLIC BEVERAGE.

TRADE *Vin Sante* MARK.

(REGISTERED)

SWEET AND DRY.

CONTAINS HYPOPHOSPHITES COMBINED WITH IRON.

SPARKLING.

GRATEFUL.

DELICIOUS.

EXHILARATING.

In Champagne Pints, retail, 6/6 per dozen. Champagne Quarts, retail, 10/6 per dozen.

AT THE INTERNATIONAL FOOD EXHIBITION, HELD IN LONDON, OCT., 1880,

The Only Prize Medal for Aerated Beverages was awarded to "VIN SANTÉ."

A FEW SELECTED TESTIMONIALS.

Report by H. C. BARTLETT, Esq., Ph.D., F.C.S.—"I have examined with great care the non-alcoholic beverage of Messrs. Morgan, Kempster & Co., known as "Vin Santé." It is admirably prepared as a table tonic, and contains Hypophosphites in the most soluble form, including iron, so as to be well adapted for general use, and I thoroughly appreciate the dietetic excellence of this advance in the chemistry of the subject. I particularly notice the absence of an unpleasant astringent reaction as an after-taste from the iron, which is objectionable in beverages for habitual table use, both as regards flavour and as being medicinal in common use. Avoiding this obvious defect in some of the same class of beverages, the "Vin Santé" may be recommended as a pleasant, refreshing and gently stimulating beverage, which well replaces effervescent wines in many cases."

LIVERPOOL ROYAL INFIRMARY, SCHOOL OF MEDICINE, Nov. 6, 1880.

DEAR SIRS,—I have no hesitation in saying that your "Vin Santé" is the best beverage of its class which I have yet seen.

Yours,

J. CAMPBELL BROWN, D.Sc., F.C.S., &c., and City Analyst.

UNBRIDGE HOUSE, CARNARVON, Sept. 17, 1880.

GENTLEMEN,—Your "Vin Santé" is very agreeable to the taste, and, containing the tonics named in assimilable forms, it cannot but be a welcome beverage to the constantly increasing number of persons that have for ever lost faith in all kinds of intoxicating drinks as common beverage. Hoping it will be a boon to the public, and a successful enterprise for yourselves,

I am, gentlemen, yours faithfully,

M. DAVIES, L.R.C.P.E. Exam., &c.

CHESTER, August 18, 1880.

Your "Vin Santé" is a non-alcoholic beverage, refreshing and agreeable, a gentle tonic, and good for dyspepsia.

W. MEWEN, M.D.

50 RODNEY STREET, LIVERPOOL, July 26, 1880.

DEAR SIR,—I beg to thank you for so kindly sending me a few bottles of your "Vin Santé." It is very agreeable and refreshing, and an important addition to our non-alcoholic beverages. I am sure that I shall find it very useful in many cases where less agreeable tonics are either refused or excite nausea. With an equal part of claret, it forms a most suitable beverage for certain invalids. With kind regards, faithfully yours,

J. W. HOWIE, M.D.

119 SHAW STREET, LIVERPOOL, May 18, 1880.

DEAR SIR,—Your "Vin Santé" is exceedingly pleasant and invigorating, and I can confidently recommend its use as a light non-alcoholic dinner beverage. I am, yours truly,

BENJAMIN BLOWER, M.R.C.S.

FOR WHOLESALE TERMS SEE PRICE LISTS OF THE UNDERNAMED
SOLE WHOLESALE AGENTS,

EVANS, SONS & CO., 56 HANOVER STREET, LIVERPOOL.

H. SUGDEN EVANS & CO., Montreal, Canada,
and Rouse's Point, New York.

EVANS, LESCHER & WEBB, London.

MELBOURNE EXHIBITION, 1880.

THOMAS WHIFFEN, BATTERSEA, LONDON,

MANUFACTURER OF

QUININE SULPHATE.

White and Unbleached, and all other important Salts of Quinine; as also of
QUINIDINE, CINCHONIDINE, AND CINCHONINE.

QUINETUM. The Alkaloids of India Cinchona Succirubra Bark.

QUINETUM SULPHATES.

LIQUID EXTRACT OF CINCHONA BARK.

SALICINE. The active principle of Willow Bark.

STRYCHNINE (HULLE'S).

The Advertiser is the PROPRIETOR and INVENTOR of this well-known Brand.

TWO GOLD MEDALS, SYDNEY EXHIBITION, 1879-1880.

TOWLE'S CHLORODYNE

The Original Preparation, as approved by the Medical Profession
on account of its known composition and uniform strength.

Retail at 13½d., 2s. 9d., and 4s. 6d. Dispensing, 4 ozs., 4s. 6d., and 10 ozs. 11s.,
stamped.

LIQ. CHLORODYNII,

As originally introduced by A. P. Towle, and free from stamp
duty for dispensing.

4 ozs., 4s.; ½ lb., 5s. 6d.; 1 lb., 10s.

TOWLE'S CHLORODYNE LOZENGES AND JUJUBES,

In 1, 2, and 4 lb. Bottles, at 3s. per lb., and 6d. and 1s. Boxes.
Foiled, Lined and neatly got up for the counter, 4s. 6d. and 9s. per doz.

A. P. TOWLE, Chlorodyne Manufacturer,
75 BACK PICCADILLY, MANCHESTER.

Bills with name on application with instructions for forwarding.

THE ONLY "GOLD MEDAL" PEARL-COATED PILLS.

Under the Patronage of



H.M. Government.

Richardson's Soluble Pearl-Coated Pills.

We were induced some years ago to manufacture on a large scale the following Formulæ of Uncoated Pills; the sale has been immense. We have further acceded to the urgent solicitation of many of our friends to send out the same forms **COATED** and by **WEIGHT**. They are sent out in **ONE POUND BOTTLES ONLY**, stamped with our Name and Trade Mark. We beg to intimate that the following forms **ONLY** will be **SOLD BY WEIGHT**. Just published, the **SIXTH EDITION** of our **SOLUBLE** Pearl Coated Pills List, containing nearly **SEVEN HUNDRED FORMULÆ**.

PILLS OF THE BRITISH PHARMACOPŒIA.

Nos.		Price per Pound,		Nos.		Price per Pound,	
		Coated.	Uncoated			Coated.	Uncoated
1.	Pil. Aloes Barb., P.B. ...	5/6	4/6	9.	Colocynth et Hyos., P.B. ...	13/	12/
2.	" Aloes et Assafœt., P.B. ...	5/	4/	Prepared with Resin Scammony.			
3.	" Aloes et Ferri, P.B. ...	5/	4/	10.	Pil. Conii Co., P.B. ...	8/	7/
4.	" Aloes et Myrrh., P.B. ...	12/	11/	11.	" Ferri Carb., P.B. ...	5/	4/
5.	" Aloes Socot., P.B. ...	6/6	5/6	12.	" Ferri Iodid., P.B. ...	8/	7/
6.	" Assafœtidæ Co., P.B. ...	6/	5/	13.	" Hydrarg., P.B. ...	5/	4/
7.	" Cambogiæ Co., P.B. ...	6/	5/	14.	" Hyd. Subchlor. Co., P.B. ...	6/6	5/6
8.	" Colocynth Co., P.B. ...	22/	21/	15.	" Ipecac. et Scillæ, P.B. ...	7/	6/
	Prepared with Virgin Scammony.			16.	" Plumbi c. Opio, P.B. ...	12/	11/
	" Do. do. ...	13/	12/	17.	" Rhæi Co., P.B. ...	7/	6/
	Prepared with Resin Scammony.			18.	" Saponis Co., P.B. ...	12/	11/
9.	Colocynth et Hyos., P.B. ...	20/	19/	19.	" Scillæ Co. ...	5/	4/
	Prepared with Virgin Scammony.						

N.B.—Unless distinctly ordered "Prepared with Virgin Scammony," Nos. 8 and 9 "Prepared with Resin Scammony" are always sent.

NON-OFFICINAL FORMULÆ.

Nos.		Price per Pound,				Price per Pound,	
		Coated.	Uncoated			Coated.	Uncoated
20.	Pil. Aperiens.			FORM N.	Pil. Tussi., No. 2.		
	Ext. Aloes Aq. ... 9j.				P. Ipecac. P. Scillæ P. Capsici.	11/	10/
	Pulv. Cambog. ... 4 grs.			FORM O.	Pil. Tussi., No. 3.		
	" Jalapæ ... 8 "				Pulv. Ipecac. Co. P. Gum. Ammon.		
	" Colocynth ... 6 "				Scillæ Sapo. Hyss.	7/	6/
	" Hydr. Subchlor. 4 "			FORM P.	Pil. Tussi., No. 4.		
	" Sapo. Hyss. 4 "				P. Ipecac. Co. P. Gum. Ammon.		
	Gingerin ... 2 " Ft. Pil. xij.	6/	5/		Pulv. Scillæ Pulv. Sapo.		
	Each Pill contains Calomel $\frac{1}{3}$ gr.				Antim. Tart. Morphia Acet.	16/	15/
21.	Pil. Aperiens, as No. 20, with 1 gr.			FORM Q.	Castor Oil Pills.	5/	4/
	Calomel in each Pill ...	6/	5/		A Mild Aperient for Females.		
22.	Pil. Aperiens, as No. 20, sine Calomel	6/	5/	FORM R.	Dandelion Pills.		
117.	Pil. Aperiens, No. 20, half size ...	7/	6/		Ext. Aloes Aquos P. Zingib.		
118.	Pil. Aperiens, No. 21, half size ...	7/	6/		Ext. Taraxaci Sapo. Mollis.	6/	5/
157.	Pil. Aperiens, Hospital.			FORM S.	Pil. Anthem. Co.		
	Ext. Aloes Aq. ... gr. ij.				Pulv. Rhæi Pulv. Zingib.		
	Pulv. Cambogiæ ... ss.				Aloes Socot. Ext. Anthem.		
	" Jalapæ ... j.				Ol. Carui.	9/	8/
	" Colocynth ... ss.			FORM T.	Pil. Cochiae Co.		
	Hyd. Subchlor. ... ss.				Pulv. Aloes Cape. P. Cambogiæ.		
	Pulv. Saponis ... ss.				P. Jalapæ P. Sapo. P. Zingib.		
	Ol. Menth. Pip. ... 1-16th.				Ol. Caryoph.	5/	4/
	" Caryoph. ... $\frac{1}{8}$ Ft. Pil. j.	6/	5/	FORM U.	Pil. Tonic.		
					Ferri Sulph. Ext. Gentian.		
FORM I.	Pil. Aperiens Fort.				Pulv. Zingib.	5/	4/
	Same as No. 257, except that each			FORM V.	Pil. Prandii, No. 1.		
	5 gr. Pill contains 1 gr. Calomel...	6/	5/		Ext. Aloes Aq. Ext. Gentian.		
FORM J.	Pil. Aperiens Mit.				Ext. Anthem. P. Capsici.	9/	8/
	Same as above, omitting the Calomel	6/	5/	FORM W.	Pil. Prandii, No. 2.		
FORM K.	Pil. Antibilious.				Ext. Aloes Aquos.		
	Pil. Hydr. Ext. Coloc. Co.	11/	10/		Pil. Rhæi Co. Ext. Gentian.	7/	6/
	Ext. Hyoseyami.			FORM X.	Pil. pro Diarrhœa.		
FORM L.	Pil. Antibil. c. Podophyl.				Acid. Tannic. Camphor.		
	Pil. Rhæi Co. Ext. Hyoseyami.				Capsicum Pulv. Opii.	9/	8/
	Podophyllin gr. $\frac{1}{4}$ in each Pill.	11/	10/	FORM Y.	Pil. pro Gout.		
FORM M.	Pil. Tussi., No. 1.				Ext. Colechici Ammon. Carb.		
	Pil. Scillæ Co. Pulv. Opii.				Pulv. Guaiac. Resin. P. Opii.	7/	6/
	Antim. Tart. P. Cambog.			FORM Z.	Pil. Diuretic.		
	Ol. Anisi.	9/	8/		Pulv. Digitalis.		
					P. Scillæ Pil. Hydrarg.	6/	5/

N.B.—All the above Formulæ can be had either in 4 or 5 grain Pills; the former are sent where the size is not stated.

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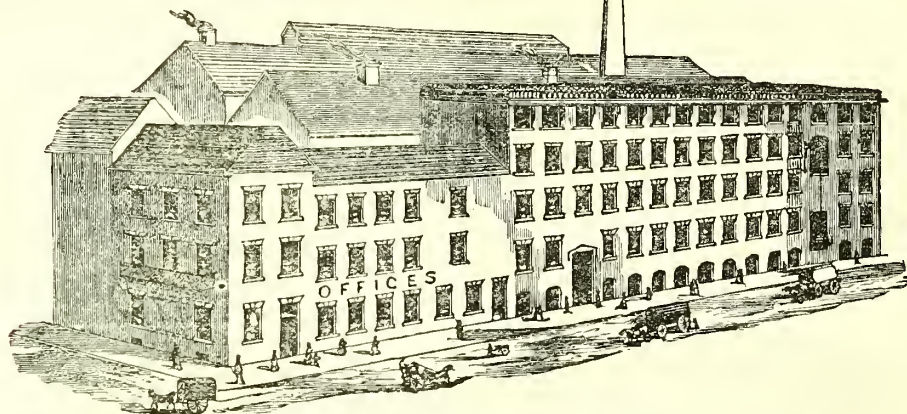
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Price 10s. 6d. per pound, packed in 10 oz., 22 oz., 40 oz., and 90 oz. Bottles.

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"I have found your 'Liq. Santal Flav. cum Buchu et Cubebâ' invaluable in several cases of gonorrhœa, and more particularly in gleet. I consider it one of our best remedies in this frequently tedious complaint. It forms a nice mixture, and is quite free from the symptoms produced by copaiva.—S. GOURLEY, M.D., F.R.C.S., Senior Surgeon to Hartlepool Hospital.—To Messrs. C. J. HEWLETT & Son, Creechurch Lane, London."

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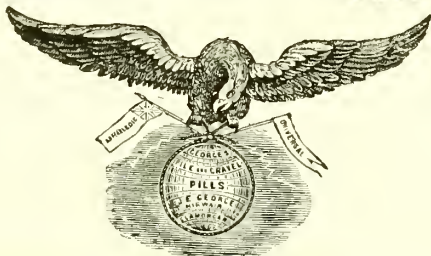
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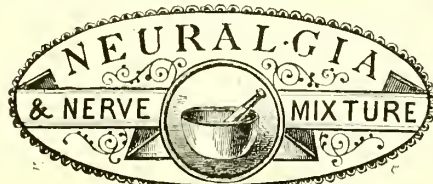
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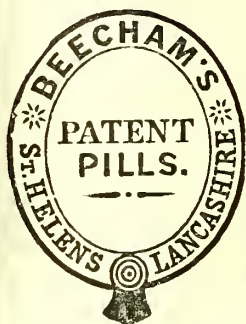
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have now become one of the leading Patent Medicines of the present day. From north to south, and from east to west, they are to be found in the homes of the rich and the poor. All classes of society use them, and they are by thousands declared to be

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N.B.—FULL DIRECTIONS ARE GIVEN WITH EACH BOX.

Dr. J. COLLIS BROWNE'S CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

SYMES & Co.,
Members of the Pharm. Society of Great Britain,
His Excellency the Viceroy's Chemists.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession

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J. T. DAVENPORT, Pharmaceutist.
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Chief Inspector of Weights and Measures for the County of Middlesex.

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10/	11/	12/	9/	11/	13/	14/	17/	19/	21/	30/	40/ per doz.
Verified Glass Measures of Extra }											
Weight and superior quality } ... 21/ 24/ 26/ 36/ 54/ ,,											

These Measures are most carefully graduated from the bottom of the Meniscus in accordance with the suggestions
of the Board of Trade.

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Manufacturer of the Standards for testing Apothecaries' Measures.

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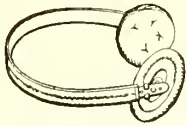


FIG. 1. Patent Single.

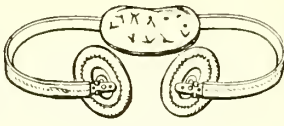


FIG. 2. Patent Double.

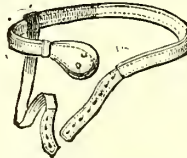


FIG. 3. Common Single.

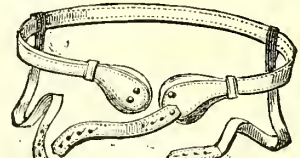


FIG. 4. Common Double.

NETT PRICES, 1880.

Patent Self-Adjusting Trusses, Basil and Chamois, per doz (Fig. 1), single	£1 10 0	Common Circular Trusses, Basil and Chamois ... per doz. (Fig. 3), single	£0 18 0
Ditto ditto Basil and Moleskin ... " " " " " " " "	1 18 0	Ditto ditto Basil and Moleskin ... " (Fig. 4), double	1 4 0
Ditto ditto Roan and Skiver, Silk Sewn ... " " " " " " " "	2 8 0	Ditto ditto Basil and Chamois ... " " " " " " " "	1 10 0
Ditto ditto Basil and Chamois ... " (Fig. 2), double	3 0 0	Ditto ditto Basil and Moleskin ... " " " " " " " "	1 18 0
Ditto ditto Basil and Moleskin ... " " " " " " " "	3 16 0	Scrotal Trusses, Basil and Chamois or Moleskin ... each, single	0 3 0
Ditto ditto Roan and Skiver, Silk Sewn ... " " " " " " " "	4 16 0	Do ditto ditto ... " double	0 7 0

N.B.—Customers are invited to order direct from S. O. & Co., or to advise the Agents to do so, as the GENUINE article cannot be obtained elsewhere, and none are of their make unless stamped with Registered Trade Mark on Springs and Plates.



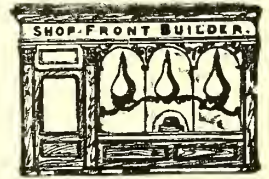
SHOP-FITTINGS.

ESTABLISHED 1830.

SAMUEL HOWLETT,

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A few Minutes' Ride by Omnibus from the Bank.



MEDICAL AND GENERAL SHOP FITTER.

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&c. &c. &c.

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Harvey & Reynolds, Leeds.
Mr. W. F. Smith, 280 Walworth Road, S.E.
Mr. Thomas Hall, Lowestoft.
&c. &c. &c.

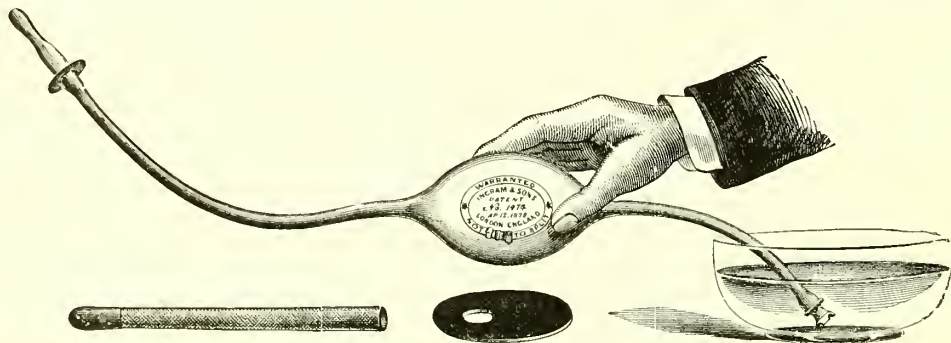
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Plans and Estimates for Entire Fittings and Alterations supplied.

INGRAM'S IMPROVED ENEMA APPARATUS

By Royal Letters Patent.

MADE IN ONE CONTINUOUS PIECE.



WARRANTED NOT TO SPLIT.

The following are the advantages we claim for our invention:—

- 1st.—A complete Enema and Syringe Apparatus, without any metallic connections or wire fastenings whatever, thereby avoiding the possibility of leakage.
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CHEMISTS, DRUGGISTS, SURGICAL INSTRUMENT MAKERS and DRUGGISTS' SUNDRIESMEN.

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10 VOLS., 12 VOLS., and 20 VOLS.

Ferri et Quiniae Citras, B.P., Ferri et Ammoniae Citras, Concentrated Fruit Essences, Photographic and Fine Chemicals, &c.

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Chemists' Shop Fitter, Shop Front Builder,
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See page 14.

Sold by all Chemists
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Patent Medicine Vendors.



In Bottles, 1s. 1ld. and 2s. 9d.
each. A great saving in
the large Bottles.

SAVED BY A PINCH OF SNUFF.

Dear Sir,—I had Tic or Neuralgia in my head for about six weeks, and was as near out of my mind as possible—so far that I was determined to put an end to my existence. A friend who has been nearly as bad as myself, and was cured with your Snuff, told me of it. I came to your shop with great prejudice; but, marvellous to say, I was cured in less than three minutes; and there is no sign of it returning, and that is two months ago.

I am, yours faithfully,

Newcastle-on-Tyne.

J. W. A. MARCHANT.

HANDYSIDES' ELECTRIC NERVINE SNUFF
C U R E S
TIC,
TOOTHACHE,
NEURALGIA,
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PAINS IN THE HEAD
IN TWO MINUTES.

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DINNEFORD'S FLUID MAGNESIA.



PERFECT IN PURITY AND UNIFORM IN
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WILL BE READY FOR DELIVERY EARLY IN MARCH. QUOTATIONS ON APPLICATION.

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neither causing Headache nor Constipation.
Dose, 10 to 30 m. 8s. 1b.

MIST. BISMUTHI AROMAT. (GALE'S).

Generally approved as a valuable Tonic, Stomachic,
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1 oz. contains all the Alkaloids of 1 oz. of best East
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Phosphorus. $3i = \frac{1}{2}$ gr. Ph. Dose, 20 to 60 m. 6s. 1b.

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Originated by us over 50 years ago. Much approved
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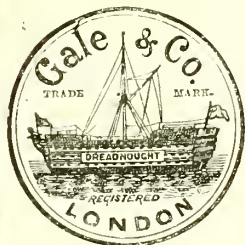
An approved sweet Essence of Senna, which keeps well.
Pleasant and certain. Dose, 1 to 3 drs. 3s. 4d. 1b.

COD LIVER OIL EMULSION (GALE'S).

Free from Gums and Alkalies, which derange the
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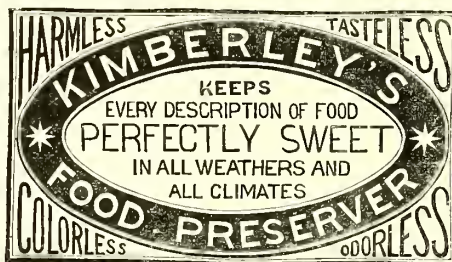
Chemical Analysis of every description promptly conducted.

"Priced Catalogue" and Formule of Pearl-Coated Pills, with "Notes on New Remedies," on application.

SEASON 1881.

ESSENTIAL IN EVERY HOUSE.

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Messrs. J. & H. A. AVERILL, Chemists, Stafford, July 3rd, 1880, in ordering a second supply within a week, say:—"The Preserver seems to have given satisfaction wherever it has been used."

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NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder.

NESTLE'S MILK FOOD is put up in tins, packed in lined cases specially for the export trade. Is highly concentrated and in a perfectly dry state. Will keep good in any climate.

Our Wholesale Agents at any port will pack and ship the Food to or for any part of the world.

Wholesale Depot: HENRI NESTLE, 9 SNOW HILL, LONDON, E.C.

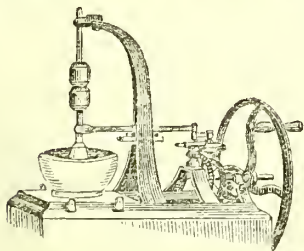
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GLYCERINE AND CHLORODYNE JUJUBES,
MEDICATED AND HIGH-CLASS LOZENGES,
LIME FRUIT TABLETS, EVERTON TOFFEE,
ACID DROPS, and Best Quality **BOILED SUGARS** of every kind.
FRAGRANT BOUQUET LOZENGES, 300 in an ounce, have an immense sale.

GIBSON'S (ORIGINAL) CHLORODYNE LOZENGES.
SUGAR WORM CAKES; keep in any climate; suitable for either Children or Adults.
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Price Lists sent on application. Our Goods can be bought through any Wholesale House in London.

GOODALL'S PATENT GRINDING AND LEVIGATING MACHINES.



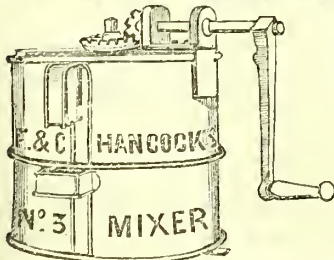
"These machines have for many years proved most serviceable on a large and small scale for Grinding, Levigating, and Mixing Powders, Pill Masses, Paints, &c." *Vide Pharmaceutical Journal*, June, 1856, p. 535; and July, 1856, p. 33.

HONOURABLE MENTION CLASS 2, 7, & 8,
INTERNATIONAL EXHIBITION, 1862.

Particulars and Testimonials on Application to the Inventor and Manufacturer,
H. GOODALL, DERBY.

A Machine to fix on Counter, with a 13-inch Wedgwood Mortar, Price £7; or with changing rotary motion, £8 10s.

F. & C. HANCOCK'S PATENT POWDER MIXING MACHINES.



The mixing is accomplished by revolving discs, and is the only machine that can blend light and heavy powders in equal proportions, grinding coagulated powders in the act of mixing, dispensing with use of sieve or mortar. Is light to work, strong, and durable, and half the price of any other mixer of equal capacity. These machines are made for hand and steam power.

No. 1.—To mix from one to six pounds..	Price £1 0 0
No. 2.—To mix from one to sixteen pounds ..	£1 10 0
No. 3.—Works with a crank handle, and will mix from one to thirty pounds of powders at one operation. This machine is much liked both by Chemists and Grocers, and can be worked by a boy ..	£3 0 0
No. 4.—Also works with a crank handle, and will mix 100 pounds of powders at one operation ..	£6 10 0

To F. & C. HANCOCK, Engineers, Dudley.—Gentlemen,—I can testify to the utility of your Mixing Machine in a Chemist's shop. Having a large quantity of baking powder to put up, I find the compound more uniform, and the work done in one-sixth the time by your No. 4 Mixer, which I have had in constant use for the last ten months.—Yours respectfully, J. HAY, Chemist, Low-Ousegate, York, July, 1880.

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F. & C. HANCOCK, Engineers, Dudley, Worcestershire, Sole Makers.

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FRY'S COCOA EXTRACT.

Guaranteed Pure Cocoa only. A perfectly pure and delicious beverage, prepared exclusively from Choice Cocoa Nibs, with the superfluous oil extracted.

"If properly prepared, there is no nicer or more wholesome preparation of Cocoa."—Food, Water, and Air, Dr. HASSALL.

"It is strictly pure, and well manufactured in every way."—W. W. STODDART, F.I.C., F.C.S., City Analyst, Bristol.

"Pure Cocoa, from which a portion of its oily ingredients has been extracted."—CHAS. A. CAMERON, M.D., F.R.C.S.I., Analyst for Dublin.

TRY ALSO

FRY'S CARACAS COCOA, a delicious preparation.

J. S. FRY & SONS, BRISTOL AND LONDON.

CONTRACTORS TO HER MAJESTY'S GOVERNMENT
AND THE INDIAN GOVERNMENT.



THE CONSOLIDATED SOUP AND FOOD CO., 23 CASTLE STREET, FINSBURY, LONDON, E.C.

VALENTIA.

This delicious Food, prepared by our special process after the result of prolonged experiments, we are now enabled to offer to the public at an exceptionally low price. It will be found invaluable for Invalids, as it corrects acidity, cures indigestion, asthma, phlegm, sleeplessness, &c., acts on the liver and kidneys, giving a tone to the stomach, and thereby restoring the appetite and sound health. For delicate infants (when made thin to pass through feeding bottle) it will be found more nutritious than nurse's milk. One pound of this Food contains more wholesome nourishment than 4 pounds of the best beef or mutton.

Sold everywhere in 1-lb. Tins, at 1/6 per lb., sufficient to make 16 Pints. Wholesale, 12/0 per dozen less usual discount to large buyers.

Berners College of Experimental Science and School of Classical and Technical Education, 44 Berners Street, W., August 20th, 1880.

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Gentlemen—This is to certify that I have made a careful examination of the "Valentia" Food, and find it an exceedingly nutritious compound, rich in nitrogenous matters, viz., in Legumen, Albumen, Gluten, &c., combined with an appropriate amount of "Respiratory" Food. It also contains the valuable "Food Phosphates of Potash and Lime" amongst other mineral constituents.

This Food is quite free from any objectionable substance or quality.

EDWARD V. GARDNER, F.A.S., M.S.A.

Profes or of Chemistry, late of the Royal Polytechnic Institution.

Wholesale of Messrs. Sanger & Sons, 252 Oxford Street, and all Wholesale Druggists and Druggists' Sundrymen.

Berners College of Experimental Science and School of Classical and Technical Education, 44 Berners Street, W., August 20th, 1880.

To the CONSOLIDATED FOOD CO.—Gentlemen,—I have carefully examined and analysed the "Valentia" Food prepared by you. 100 parts contain:—

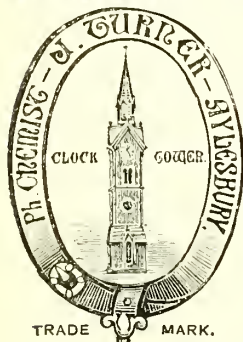
Moisture	10.00
Soluble Nitrogenous Organic matter, viz., Gluten, Legumen, and Starchy matters, &c.	33.00
Other Nitrogenous Organic substances, viz., Albumen, Fibrine, &c.	51.60
Inorganic Constituents, principally Phosphate of Potash and Lime, with Salts of Alkalies	2.40
Traces of Soluble Silica	100.00

EDWARD V. GARDNER, F.A.S., M.S.A.,

Professor of Chemistry, late of the Royal Polytechnic Institution.

TURNER'S TARAXACUM OR DANDELION COFFEE

IS THE BEST.



TRADE MARK.

Is sold in 6d., 1s., and 2s. Tins only, and each Tin bears the Proprietor's "Registered Trade Mark" on the Wrapper, without which it is not genuine.

TURNER'S DANDELION COFFEE

Is recommended by the Faculty. See Testimonial.

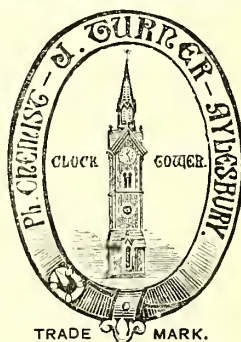
TESTIMONIAL from C. SPENCER, Esq., M.R.C.S., WHITCHURCH.

"Dear Sir,—I have tried your Coffee, like it, and can speak very highly of it.

"Mr. J. Turner."

"Yours truly,

"C. SPENCER."



TRADE MARK.

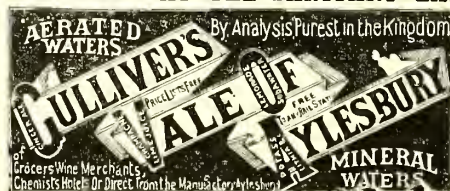
This Preparation is well got up, gives a good profit, and will only be supplied to one Chemist in each Town.

TERMS ON APPLICATION TO THE PROPRIETOR.

Prepared and Sold by J. TURNER, Pharmaceutist, AYLESBURY.

AWARDED THE CERTIFICATE OF MERIT AT THE SANITARY EXHIBITION OF GREAT BRITAIN.

A SIX DOZEN CASE, which may be assorted, to any Railway Station for 36s., returned Empty allowed 18s.



A Liberal Discount to the Trade, who should send for Sample Case before ordering elsewhere.

Full detailed List of Analysis, Testimonials, and Opinions of the Press on application.

Product of a special refining process.

It is Chocolate devoided of its over-richness and substantiality.

Sugarless, and, when made, of the consistence of Coffee.

An afternoon Chocolate.

In packets, 6d. and 1s., and tins, 9d., 1s. 4d., 2s. 8d., 5s., or 7s. 6d. labelled.

JAMES EPPS & CO.,

Homœopathic Chemists,

LONDON.

EPPS'S CHOCOLATE ESSENCE.

HALL & RUCKEL'S HOLLOW SUPPOSITORIES,

With Stoppers (Patent Turned).

ALL MADE FROM PURE BUTTER OF COCOA.

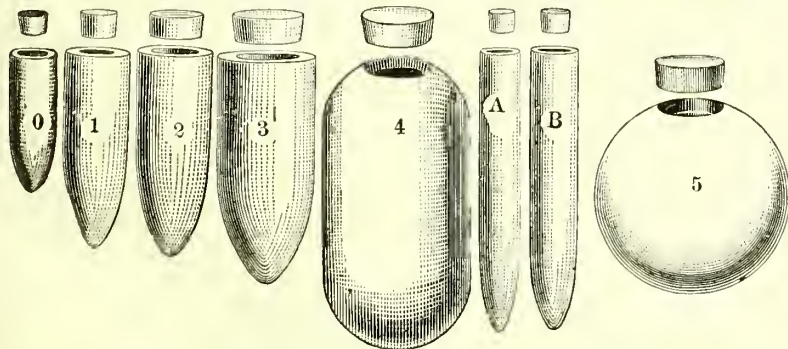
The object of this invention is to supply Druggists and Physicians with HOLLOW SUPPOSITORIES, into which they can put MEDICINE or NUTRIMENT, thus preparing them for use in a few minutes.

The rectum not only absorbs more rapidly than other mucous membranes, but it has considerable digestive power, so that some medicines act more promptly *via rectum* than by the mouth. Life may be indefinitely sustained by means of concentrated foods introduced into the system through this avenue. Physicians have, heretofore, been unable to employ, satisfactorily, this invaluable method of medication and nutrition, because of the difficulty of obtaining suppositories that are *evenly* medicated.

If the medicine is *lighter* than the butter of cocoa, it rises to the surface, and most of it goes into the first moulds that are filled. If the medicine is *heavier*, as *calomel*, it sinks, and, not unfrequently, most of it may be found in the last suppository that is poured, and thus some of them are hardly medicated at all, while others may be dangerous because of the *excess* of medicine they contain; though the medication be even, the suppositories are usually rough and crumbly and easily break in pieces; or produce anal irritation when being inserted; moreover, nutritive substances, as *beef extract*, etc., cannot be incorporated in the ordinary suppositories. The employment of our "HOLLOW SUPPOSITORIES" overcomes all these difficulties, as the required quantity of medicine or nutriment can be put directly into each "HOLLOW SUPPOSITORY" and sealed up, and then it is ready for use. Medicines may be triturated in a mortar with a little butter of cocoa, or made into a mass and divided into equal parts and put in the "HOLLOW SUPPOSITORIES," or if liquid, poured in. All fillings must be put in cold.

Our "HOLLOW SUPPOSITORIES" are made of the various shapes and sizes required for the introduction of remedies into the open passages of the body.

EXACT SIZES OF OUR VARIOUS HOLLOW SUPPOSITORIES.



Size 0, is for children. It may also be used for the EAR, and in the NASAL PASSAGES. Nos. 1, 2, and 3 are RECTAL SUPPOSITORIES. Nos. 3 and 4 may be used for introducing nutriment into the system, *via rectum*. No. 4 is also a VAGINAL Suppository. No. 5 is a "SPHERICAL HOLLOW SUPPOSITORY" to introduce remedies into the VAGINA and to the *os uteri*, where they may be kept in contact with the diseased part by means of a *tampon* of cotton covered with oiled silk. A and B are used for medicating any part of the URETHRA or UTERINE CAVITY or NASAL PASSAGES.

PRICES.

Half-gross, size 0, 5/; half-gross, No. 1, 6/; half-gross, No. 2, 7/; half-gross, No. 3, 8/; quarter-gross, Nos. 4 and 5 (put up in quarter-gross partition boxes), 10/; half-gross A, 7/; half-gross B, 8/.

HALL & RUCKEL, Wholesale Druggists, Proprietors,
218 & 220 Greenwich Street, N.Y.

Sold by Principal Wholesale Druggists and Druggists' Sundriesmen, and by
S. MAW, SON & THOMPSON, 7 to 12 Aldersgate Street, London.

E. LAZENBY & SON

(6 EDWARDS STREET, PORTMAN SQUARE) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1838 and without it none can be genuine.

18 TRINITY STREET, LONDON. S.E.

Elizabeth Lazenby



ESTABLISHED 1760.

Contains three times the strength of ordinary Breakfast Beverages.

ONCE TRIED ALWAYS USED.

The valuable properties of the Dandelion Root, recognised by eminent

Physicians for many centuries, has now become an article of daily use.

Sold by all Chemists throughout the Kingdom in Tins at 1s. 6d., 1s., 9d., and 6d.—Price Lists on application to the Manufacturers.

PHILLIPS & SON,

CASTLE SQUARE, SWANSEA,

AND ARTHUR STREET WEST, LONDON BRIDGE,

OR OF

JAS. WOOLLEY, SON & CO., Manchester.

W. MATHER, Export Agent, London.

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GOODALL, BACKHOUSE & CO., Leeds.

McMAISTER & HODGSON, Dublin.

EVANS, SONS & CO., Liverpool, &c.

MAW, SON & THOMPSON, Aldersgate

Street, London.

BURGOYNE, BURBIDGES & CYRIAX,

16 Coleman Street

BARCLAY & SONS, Farringdon Street.

COLONIAL AGENTS.—Melbourne, Adelaide, and Sydney—P. T. FALK; BLYTHE

& CO. New Zealand, Nelson, Canterbury, Auckland—A. SCLANDERS & CO.; E. & A.

ISAACS. Adelaide—F. H. FAULDING & CO. Cape, Algoa Bay, East London—

L. DREYFUS.

SPECIAL TERMS TO MERCHANTS AND SHIPPERS.

SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

NOT REMOVED

From their **SOLE ADDRESS**, No. 11

LITTLE STANHOPE STREET, MAY-

FAIR, W, and caution the trade to

BEWARE of IMITATIONS.

MUSTARD.

FINCH, RICKMAN & CO.'S

Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

6 BROKEN WHARF, UPPER THAMES STREET,
LONDON.

A CUP OF DELICIOUS INVIGORATING COFFEE

IN PERFECTION, by using

SYMINGTON'S

ESSENCE OF COFFEE,

OR ESSENCE OF COFFEE AND CHICORY.

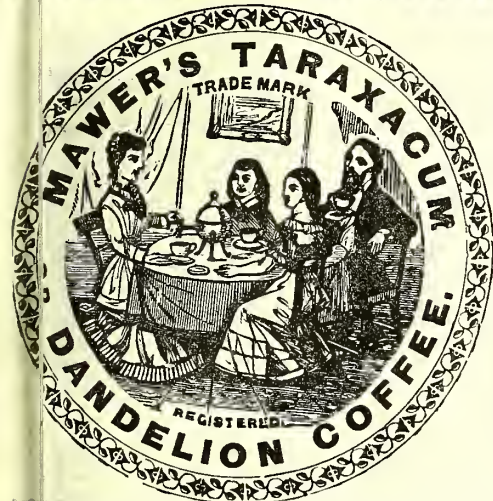
These Preparations are specially recommended as Unique, Wholesome, and Economic Dietetic Beverages, possessing rich Coffee aroma, but free from the TREACLY TASTE and BURNED FLAVOUR always complained of in other such Essences.

London Agents, W. & C. Volckman, F. Newbery & Sons, Barclay & Sons, and Maw, Son & Thompson.

THOS. SYMINGTON & CO., Chemists,

BEAVERBANK WORKS, EDINBURGH.

MAWER'S TARAXACUM OR DANDELION COFFEE,



Prepared from the Fresh Root,
IN TINS, 6d., 9d., 1s., 1s. 6d., and 2s.,

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article. Beware of worthless imitations.

See Analytical Report on every packet by Professor Attfield, F.R.S., &c.,
Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain.

A LARGE BUYER writes:—"Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it,"

A NOBLE EARL, the oldest in the House of Peers, sends the following message:—"Present my compliments to Mr. Mawer, and tell him I like his Taraxacum, and that it agrees with me very well; and request him to send the usual number of tins."

Terms and Price Lists on application to the Manufacturer—

EDWARD MAWER,
Chemist,
HIGH WYCOMBE, BUCKS.

Handbills and Show Cards supplied gratis.

KORFF'S

PURE CHOCOLATE

Of all the Wholesale Houses, and

A. PHILLIPS & CO., 23 GREAT ST. HELEN'S, LONDON, E.C.

POWDER.

33/ per Dozen Pound Tins.
17/ " " Half-Pound Tins.
9/ " " Quarter-Pound Tins.

IN PINT
& QUART PACKETS

Beef & Peas
Beef & Lentils
Beef & Carrots
Beef & Celery
Beef & Onions
Mulligatawny
MILK OR
CHILDREN'S SOUP

NELSON'S

Each Packet is Signed

Geo. Nelson

SOUPS.

Samples and Prices on application to the Manufacturers,

GEORGE NELSON, DALE & Co.,
14, DOWGATE HILL, LONDON, E.C.

P

NELSON'S

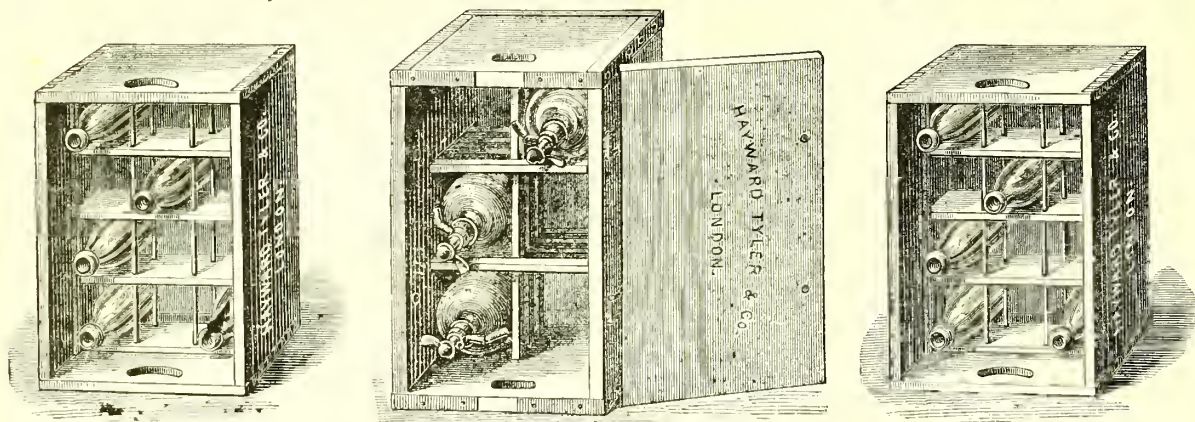
PURE BEEF TEA

SOLD IN HALF-PINT PACKETS.

Samples and Prices on application to the Manufacturers,

GEORGE NELSON, DALE & Co.,
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SYPHONS, SYPHON BOXES AND TRAYS.



HAYWARD TYLER & CO., LONDON.

SODA WATER MACHINERY

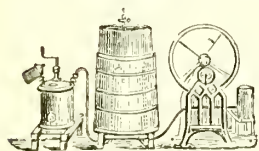
BY

BARNETT & FOSTER,

23rd FORSTON STREET, SHEPHERDESS WALK, LONDON, N.

Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.

Our Machines are universally adopted throughout the world for the manufacture of all kinds of Aerated Drinks, whether in bottles, syphons, or counter fountains. There are in England alone over 1 500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly-charged gaseous water free from metallic or foreign contamination.



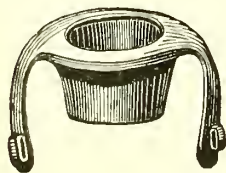
All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

Our valuable Book of Recipes and Instructions accompanies every Machine, and the most unskilled can at once produce Waters of the highest class.

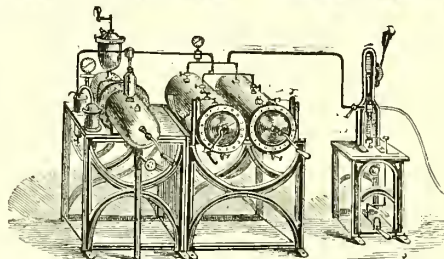
Sole Agents for Codd's Patent Bottle, Fig. 1. Sole Manufacturer of the "London-made" Syphon, Fig. 2. PATENTEES OF THE IMPROVED CORKING MACHINE FOR CHAMPAGNE BOTTLES. ILLUSTRATED CATALOGUE FORWARDED FREE.

SODA-WATER MACHINERY.

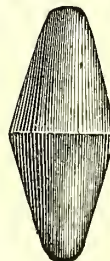
PATENT NOZZLE



FITS ANY BOTTLE.



CONE STOPPER.



BALL STOPPER.



SODA WATER MACHINE COMPLETE, WITH RACK.

DAVENPORT'S NOZZLE AND STOPPER is the best Patent for utilising old Bottles, and converting them into Patents. No Corks or Wire, and saving entire cost in one season. The New Nickel-plated Nozzle makes this the most attractive Patent in use. Trial allowed. Prices lowered. Send for Samples. New Bottles ready fitted for use now supplied. Catalogues of Soda-Water Machines, Ice-Making Machines, Engines, Boilers, Copper Cylinders, Syphons, Seltzogenes, Filters, &c., and all accessories to the Soda-Water Trade.

AGENTS FOR HAYWARD TYLER & CO.'S SODA-WATER MACHINERY.

" BARRETT & ELLERS' Patent Stoppers in Lamont's Bottles.

" Illustrated Catalogues, of sixty-four pages, post free to all parts of the World.

DAVENPORT & CO., Soda-Water Machinists and General Machinery Agents, 99th HIGH HOLBORN, LONDON.

LAMPLOUGH'S EFFERVESCENT PYRETIC SALINE.

HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE; it gives instant relief in Headaches, Sea, or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERRY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall.

113 HOLBORN HILL, LONDON, E.C.

SPECIAL NOTICE.—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.



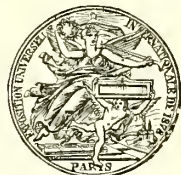
GOLD MEDAL,

SODA WATER MACHINERY.

MONDOLLOT'S PATENT.

The chief features of which are the entire suppression of the Gasometer and all its disadvantages, economy of materials, and saving of labour.

Notwithstanding the short time this Machine has been put before the Public, over 400 Machines are already in use all over the World.



PARIS, 1878.

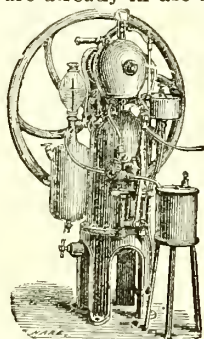
No Gasometer.

No danger of Explosion.

No skilled labour required.

No previous knowledge necessary.

Bottle and Syphon Filling Stand, Syphons, Syrup Pump, and all necessary Appliances. A New and Exhaustive Catalogue is now in the press, and will be sent, when ready, on application to



No. 1 Machine, complete.
Prices from £25.

The Cheapest Machine.

The Most Compact.

The Most Simple to Work.

Being Entirely Automatical.

"When explained it is simplicity itself. . . . The fact of the economy of skilled labour and the saving of materials being the chief and most important points."—*The Mineral Water Trade Review and Guardian.*

"There is no ordinary generator or gasometer in connection with this machine, and therein lies the secret of its advantage over the ordinary English Machines."—*The Mineral Water Trade Recorder and Advocate.*

MONDOLLOT & CO., LD.,

13c LITTLE JAMES STREET, LONDON,
BEDFORD ROW,

HIGHEST AWARD,
GOLD MEDAL,



SYDNEY, 1879.

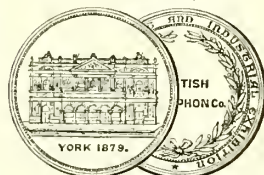
THE

BRITISH SYPHON MANUFACTORY,

EUGSTER & KOERTGEN, Proprietors.

OFFICES: 2 GRESHAM BLDGS., BASINGHALL ST., E.C. } LONDON.
Works: 6½ & 7 Wickham Street, Lambeth, S.E. }

PRIZE MEDAL,
FINE ART AND INDUSTRIAL
EXHIBITION,



YORK, 1879.

SYPHONS.

SHORT LEVERS 22½ } per doz.
LONG " 24 } net.

White, Blue, Amber, or Green Bottles—
Cylindrical or Oval shaped.

Silver Plated from 8/ per doz. extra.

Name stamped on metal tops, free for
orders of one gross.

Name and Trade Mark en-
graved on the Bottles by the
Acid Process, from 1½d. to 2½d.
each extra.

Each Seltzogene and Syphon thoroughly tested before sent out.

ALL METAL WARRANTED FREE FROM LEAD.

SELTZOGENES.

WIRE.

3 pint size.... 13/ }
5 " 18/ }
8 " 30/ }

SILVER PLATED TOPS, 5/ extra.

POWDERS for the same —

3 pint, 22/ per doz. boxes, 10 charges
each.

5 pint, 36/ per doz. boxes, 10 charges
each.

8 pint, 58/ per doz. boxes, 10 charges
each.

LIBERAL DISCOUNT.

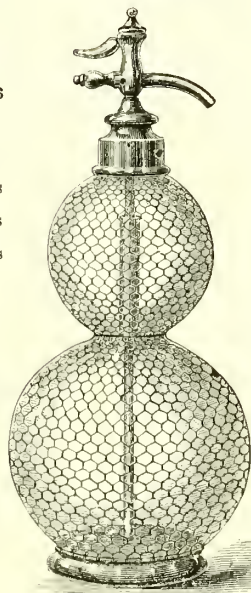
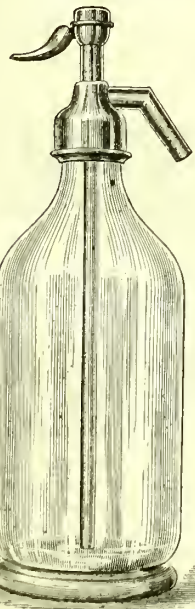
SODA WATER MACHINERY.

NEW and IMPROVED CONTINUOUS APPARATUS,
with One or Two Pumps.

GENERATORS, WASHING VESSELS, GASOMETERS, ETC.

— SYPHON FILLING MACHINES £5 10 0
SYRUP DOSING MACHINES 7 10 0
SYPHON FILLERS AND SYRUPERS COMBINED 10 15 0

ESTIMATES ON APPLICATION.



"ABSOLUTELY PURE."

SEE ANALYSES. Sent post free on application.

ELLIS'S



RUTHIN

WATERS.

Soda, Potass,
Seltzer, Lemon-
ade, also Water
without Alkali.
For GOUT,
Lithia Water, &
Lithia &
Potass Water.

REGISTERED.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

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Caution

W. A. ROSS, the Original Patentee and Maker of
The Celebrated Belfast Ginger Ale, cautions
the Public that the "GENUINE" can only be had at

Ross's Royal Ginger Ale
AND
Aerated Water Works Belfast.

NAME ON CORK, CAPSULE, AND LABEL REGISTERED.

EXPORT ORDERS HAVE SPECIAL ATTENTION.

NEW AND IMPORTANT DISCOVERY.

GINGER ALE

FROM PURE JAMAICA GINGER.

The difficulty of using Ginger in the Manufacture of "Ginger Ale," and at the same time having a CLEAR and SPARKLING DRINK, has, after much labour and expense, been thoroughly overcome by

Messrs. HARSTON & CO., of LEEDS,

And they are now able to place before the public a BRIGHT and SPARKLING DRINK, made purely from genuine Ginger Root.



THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Has wonderful nourishing properties.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Restores circulation; is warm and comforting.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Is Non-intoxicating.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. For railway travelling, driving, or exposure to cold.

ABSOLUTELY PURE.

See Analysis by Drs. A. H. HASSALL, M.D., and OTTO HEHNER, F.C.S.

THE CHEMISTS' AERATED & MINERAL WATERS ASSOCIATION (LIMITED),

DIRECTORS—HORACE DAVENPORT, Chemist, 33 Great Russell Street, London, W.C., *Chairman*; A. GOULD, Lombard St., London, E.C.;
GEORGE GOLDFINCH, Chemist, Hendon, N.W.; J. H. WILSON, Chemist, Harrogate.

Offices & Factories—45 GIFFORD STREET, and 112 PEMBROKE ST., CALEDONIAN ROAD, LONDON; and HARROGATE.

The liability of Shareholders is strictly limited to the actual amount of their respective Shares.

The objects of this Association are—Firstly, to manufacture and supply to Shareholders who are Chemists, and to Hospitals, Aerated and Mineral Waters of specified formulae and guaranteed quality. Secondly, to deal generally in the Waters of the various mineral springs in Great Britain.

The Association, which is conducted on the cash co-operative principle, is now thoroughly established on a sound basis and is supported by over 400 Shareholders. Only 10 £1 Shares at 5s. premium remain unallotted—£10 shares at par.

KISSENGEN (HARROGATE) WATER,

THE ONLY NATURAL APERIENT TONIC IN BRITAIN.

Chemists will do well to introduce this Water to their Customers and Medical Profession. Pamphlets, with Analysis and full particulars, on application. The Branch at Harrogate is now supplying Aerated Mineral Waters, and also the Natural Waters of the Kissengen and Sulphur Springs.

RUBINE or BARK BEER.

(REGISTERED TITLE.)

Attention is drawn to this Speciality, a pleasant and effective beverage, manufactured from the Red Bark, now so largely used in the United States for alleviating the craving for alcoholic stimulant from which so many suffer. For Prospectus and full particulars apply to the Offices of the Association.

N.B.—Chemists will readily perceive the advantage of pushing the sale of the Association Waters, as the trade they establish cannot be taken away by competition of other tradesmen, Chemists only being supplied with the Manufactured Waters.

H. T. BUTLER, Secretary.

J. H. CUFF'S MINERAL WATERS, Atkinson St., Deansgate, MANCHESTER.

ESTABLISHED IN 1801.

SODA WATER (ordinary)	LEMONADE
SODA WATER B.P.	GINGER ALE
SELTZER WATER	GINGER BEER
LITHIA WATER	AERATED WATER
POTASS WATER	without alkali
15 grs., 20 grs., & 30 grs.	QUININE TONIC
(each half-pint)	WATER

LITHIA WITH POTASS WATER, &c., &c.,
Supplied in ordinary and half-sized bottles and in syphons.

Cuff's Waters are prepared expressly for a High-class
Family Trade.

PRICES MOST REASONABLE.
LIST FREE ON APPLICATION.

CARRIAGE PAID ON FULL GOODS
AND RETURNED EMPTIES.

Cuff's Waters give universal satisfaction to Dealers and
Consumers alike. Try them!

BOURNE WATER, THE PUREST IN ENGLAND.

R. M. MILLS & CO.,

BOURNE, LINCOLNSHIRE,

Manufacture all kinds of AERATED WATERS
from this celebrated Artesian Spring.

Sold by their Agents throughout England.

Price, with Descriptive Pamphlets, upon application.

T. & F. J. TAYLOR'S

AERATED WATERS, Newport Pagnel.

ESTABLISHED 1835.

SODA, POTASH, SELTZER, AERATED (without
Alkali), and LITHIA WATERS,
LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature
of the Firm.

Purity and Excellence of the Water certified by Analysis
by Professor ATTFIELD, Ph.D., F.C.S.

HAY'S GINGER CHAMPAGNE.

A DELICIOUS
NON-
INTOXICATING
AND
INVIGORATING
TONIC
BEVERAGE.



PRICE,
IN HALF-PINT
CHAMPAGNE
BOTTLES,
5s. 6d.
PER DOZEN.

This SPARKLING, EXHILARATING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

It is strongly recommended both for Juveniles as well as for Adults, as the most wholesome stimulating beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

"Creamy, sparkling, and pleasantly aromatic; is in our opinion the best thing of its kind yet introduced."—*Eastern Morning News*.

"SPEAKING CONSCIENTIOUSLY of its merits, it is impossible to conceive a more refreshing, delicate, and delicious drink than HAY'S GINGER CHAMPAGNE."—*Mineral Water Trade Recorder*.

"One of the most delicate and wholesome drinks in the market. The creaminess, colour, and even the aroma of champagne are precisely imitated, and the after flavour of the Ginger Essence is peculiarly grateful at this inclement season."—*Medical Press*, Jan. 26, 1881.

"Mr. Hay, of Hull, deserves abundant success with his GINGER CHAMPAGNE. It is an exhilarating, wholesome, and very agreeable beverage."—*The Chemist and Druggist*.

"A light SPARKLING and REFRESHING drink."—*Hull News*.

MANUFACTORY,

4 REGENT'S TERRACE, ANLABY ROAD,

HULL.

ZOE D O N E.

TRADE PRICES: 5/4 per dozen small bottles; 10/ per dozen large bottles.

Terms: 5 per cent. Cash, or 2½ per cent. Quarterly Account (special quotation for quantity).

Agents:—INGRAM & ROYLE,

119 QUEEN VICTORIA STREET, LONDON, E.C.

Price List and Pamphlet on "NATURAL MINERAL WATERS: their Properties and Uses," on application.

West of England Branch:—BATH BRIDGE, BRISTOL. (Separate Price List.)

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MINERAL WATERS.

FREDERICKSHAL (5 Cases, 6d. per Case less), 24/6 Case, 30 bot.; 34/ Case, 60 ½-bot.

APOLLINARIS (20 Hprs., 1/- per Hpr. less), 25/ Hpr., 50 bot.; 39/ Hpr., 100 ½-bot.

Hampers free, carriage paid; Empty Bottles, 6d. per dozen.

HUNYADI JÁNOS (10 Cases 4-bts., 5/- less; 10 Cases, 6-bts., 3/- each less), 30/- Case, 25 bts.; 50/- Case, 50 ½-bts.

SELTZER 11/6 Hpr., 25 bts.

" 15/6 Hpr., 50 ½-bts.

PULLNA 18/- Case, 20 bts.

" 30/- Case, 50 ½-bts.

VICHY 31/- " 50 bts.

" 27/- " 50 ½-bts.

CARLSBAD 37/6 " 50 bts.

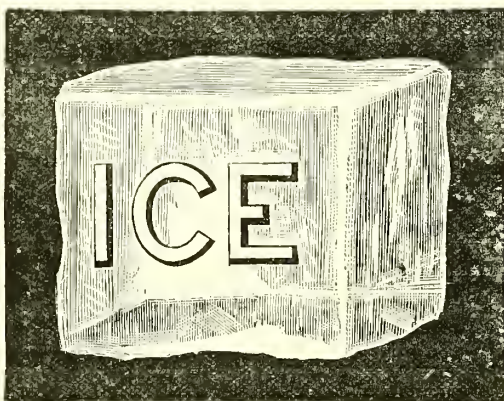
KISSENGEN 45/- " 50 "

SCHWALBACH 26/6 " 50 "

HOMBURG 37/6 " 50 "

WILDUNGEN 40/- " 50 "

CARLSBAD SALTS, ¼-Bots., 21/- per doz.; ½-Bots., 41/- per doz.; Bot., 80/- per doz.



FINE NORWEGIAN BLOCK ICE.

ORIGINAL BLOCKS, 2 to 3 cwt. each 2½ per cwt.

1 cwt. to 2 cwt. ½d. per lb

Under 1 cwt. 1d. per lb

Packing and Mats for Original Blocks free 3d. each allowed for Mats if returned in good condition.

PRINTED DIRECTIONS for STORING ICE sent free on application.

W. B. HARRISON,
IMPORTER OF ICE AND
MINERAL WATERS,
6 Bridge Street, Sunderland.

JEWSBURY & BROWN'S

MANCHESTER

MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1879.

ZOEDONE

A DELICIOUS BEVERAGE.

The BRITISH MEDICAL JOURNAL says:—

"We can confidently recommend it to the attention of physicians and others who are occasionally at a loss what to direct their patients to take when parched by feverish thirst or depressed by exhausting ailments—notably in cases where alcoholic stimulants would be prejudicial. We feel that it would be found exceedingly useful in mitigating the discomfort oftentimes experienced by those suffering from the thirst, loss of appetite, and general *malaise* connected with the last stage of phthisis and chronic bronchitis. We would also, from our observations and experience, advise its introduction into clubs, taverns, and places of public amusement, where it would judiciously supersede vinous and alcoholic stimulants, seeing that it contains, in its name implies, life-giving ingredients in a form easily assimilated."

A BRAIN AND NERVE TONIC.

The LANCET says:—"ZOEDONE contains the soluble phosphates of lime, iron, soda, and potash, in medicinal quantities. Very efficient and pleasant."

The MEDICAL PRESS AND CIRCULAR says:—"Is commendable equally for the style in which it is put up and the delicate flavour which it possesses, and also on account of its special merits as a nerve tonic."

NON-ALCOHOLIC.—STIMULATES BY STRENGTHENING.

CAUTION.—Dealers should be on their guard against numerous imitations of ZOEDONE, put up in the same style and offered as substantially the same article. The composition of ZOEDONE is protected by Letters Patent, and the Zoedone Company will proceed against infringements.

Every Chemist that has introduced ZOEDONE has found a large and regularly increasing sale for it. It is put up in Champagne Bottles, and there is no trouble with empties, as the bottles are included in the price. Customers supplied with Pamphlets for distribution; also a special Circular for medical men stating the formula.

ZOEDONE is admirably adapted for hot climates.

ZOEDONE is supplied on the following Terms, Cash Prices, free on Rails at Wrexham:—

SMALL	Champagnes,	6/6	per dozen (EXPORT,	7/0	per dozen),	in 6 dozen cases.	
"	"	6/8	"	7/2	"	3	"
"	"	6/9	"	7/3	"	2	"
"	"	6/10	"	7/4	"	1	"
LARGE	"	12/0	"	13/0	"	3	"
"	"	12/6	"	13/6	"	1	"

Bottles and Packages included.

Application for Trade Terms should be accompanied by Business Card.

WHOLESALE AGENTS:—

LONDON—Allen & Hanburys.	BELFAST—Grattan & Co.	HULL—Lofthouse & Saltmer.
" Barclay & Sons.	BERWICK—W. Graham, Carr & Son.	LANCASTER—W. H. Bagnall & Co.
" W. Best & Sons.	BIRMINGHAM—Southall Bros. & Barclay.	LEEDS—Goodall, Backhouse & Co.
" Burgoyne, Burbidges, Cyriax & Farries.	" Phillip Harris & Co.	LEICESTER—John Richardson & Co.
" Corbyn, Stacey & Co.	BRADFORD—Harrison, Parkinson & Co.	LIVERPOOL—Clay, Dod & Case.
" Edwards & Sons.	BRISTOL—Ferris & Co.	" Evans, Sons & Co.
" Evans, Lescher & Evans.	CHELTENHAM—Joseph James.	" Raimes & Co.
" Hearon, Squire & Francis.	CORK—W. & H. Goulding.	" R. Sumner & Co.
" Ingram & Royle.	" T. R. Lester.	" Clay & Abraham.
" Lynch & Co.	COVENTRY—Wyleys & Co.	" Symes & Co.
" S. Maw, Son & Thompson.	DUBLIN—Hamilton, Long & Co.	MANCHESTER—James Woolley, Sons & Co.
" F. Newbery & Sons.	" Johnson & Oldham.	NEWCASTLE-ON-TYNE—Brady & Martin.
" Probyn & Co.	" A. & R. Thwaites & Co.	NICE—J. Daniel.
" Savory & Moore.	EDINBURGH—Duncan, Flockhart & Co.	NORTHAMPTON—Frederick Kirby.
" Wright, Layman & Umney.	" John Mackay & Co.	PARIS—Hogg, 2 Rue Castiglione.
ABERDEEN—W. Paterson & Sons.	EXETER—Evans, Gadd & Co.	YORK—Henry J. Pratt.
	GLASGOW—The Glasgow Apothecaries' Co.	

Retail Agents whose names are not on the published list should communicate with the Manager.

PATENTEE—DAVID JOHNSON, F.C.S.

MANAGER—JOHN MOSS, F.I.C., F.C.S.

Manufacturers—THE ZOEDONE COMPANY (Lim.), Wrexham, North Wales.

LONDON OFFICE: 25 ABCHURCH LANE, E.C.

NOTE.—ALL orders for the Company must be sent to Wrexham.

NOVELTIES IN BOTTLES AND STOPPERS.



THE
GLASS, EBONITE, PORCELAIN, &c.
DISC BOTTLE,

WITH NEW PATENT PURE RINGS,
SIMPLE, PERFECT, UNIQUE.

Likely to supersede all other Patent Bottles.



*The Disc effectually covers the rubber
when the bottle is filled.*

These Bottles and Ebonite and
Porcelain Discs can be supplied
at a cheaper rate than the
Prepared Glass, as No. 1.

THE SCREW STOPPER & BOTTLE,
For Ales, Porter, Cider, and
Brewed Beer.

The Screw Stoppers can be attached to the necks of
the Bottles by a band of wire and a small chain, if
preferred; price about 3s. 6d. extra. See Fig. 4.

When bottling, the Stoppers must be wetted before
screwing them in. Screw it gently but firmly home.

They should not be subjected to the action of any
strong alkali, or great heat, and are not recommended
for bottling spirits at present.

Essential and Indispensable for every
Refreshment Room Proprietor, for every Hotel
and Public-house, and for every Householder.

Our other, and well-known Stoppers,
&c., still supplied as usual.

SAMPLES ON APPLICATION.



OUR ORIGINAL AND WELL-KNOWN
STOPPERS HAVE NOW BEEN
IN USE FOR YEARS BY
UPWARDS OF 1,000



MINERAL WATER MANUFACTURERS
AND OTHERS THROUGHOUT
THE UNITED KINGDOM
AND THE WORLD.

BARRETT & ELMERS, 9 Dacre Street, Westminster, LONDON, S.W.

VALLET'S PATENT.

Fig. 1.

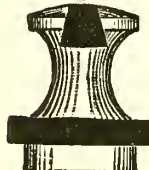
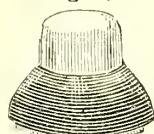


Fig. 3.



New Stopper.

The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6.
Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to
which having sufficient capacity in the mouth to allow a copious flow of the
liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have
only a small mouth, thus retarding the flow of the liquid, and causing the
evaporation of the carbonic acid gas before the Bottle can be emptied.

ROYALTY FREE.

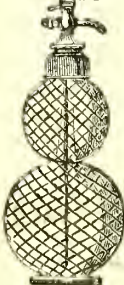
All Communications to be addressed to

L. VALLET, 49 Everton Road,
LIVERPOOL.

Fig. 2.—THE STOPPERED AND FITTED BOTTLE.



1878.



EUGENE GERAUT & CO.

NEW PATENT LEVER
SELTZOGENES.

For the immediate production of Eau de
Vichy, Soda Water, Sparkling Lemonade,
Aerated Waters.

First introduced by EUGENE GERAUT & Co. in 1853.
3-pint, wire, 13/; 5-pint, wire, 18/; 8-pint, wire, 30/.
Cane covered, 3-pint, 6d.; 5-pint, 1/; 8-pint, 2/ each extra.
Strongly silver-plated top, 5/ each extra. 3-pint size,
strongly silver-plated, richly decorated porcelain stands,
30/ each; 5-pint size, ditto, ditto, 38/ each; 8-pint size,
ditto, ditto, 48/ each.

Our well-known Seltzogenes are improved yearly, and have
already stood a public test of upwards of Twenty Years,
and are acknowledged as THE VERY BEST.

POWDERS FOR THE ABOVE.—Subject, 3-pint, per dozen
boxes, 22/; 5-pint, ditto, 36/; 8-pint, ditto, 65/.

LIBERAL DISCOUNT FOR LARGE QUANTITIES.
1 & 2 CORPORATION BUILDINGS, FARRINGTON ROAD, LONDON, E.C.



1873.

SYPHONS.

IMPORTANT NOTICE.

Great Reduction in Price.

Clear or coloured glass, pure ENGLISH BLOCK
TIN TOPS, with piston or cap.

22/6 per dozen, for quantities of not less
than one gross.

25/ per dozen, for less than one gross.

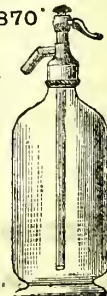
Packing in Cask, 5/ per gross.

The Name marked on the metals free of charge for
quantities of not less than one gross.

The Name engraved on the glass, 2d. each extra.



1870.



HAY'S SOLUBLE ESSENCE OF JAMAICA GINGER

(GUARANTEED PURE AND FREE FROM CAPSICUM)

TRADE PRICE, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of *Transparent Aërated Waters*, and for all *Dietetic, Medicinal, and Pharmaceutical Purposes*.

Medical and other Opinions on the Soluble Essence:

"Singularly free from Resin."—*The Lancet*.

"It is a pure, elegant preparation."—*Medical Times and Gazette*.

"It is a pharmaceutical desideratum."—*The Chemist and Druggist*.



THE COMPOUND ESSENCE

(GUARANTEED PURE AND FREE FROM CAPSICUM).

This Essence imparts with the GINGER a PECULIARLY FINE FRUITY FLAVOUR and AROMA.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

GINGER ALE.

This Essence imparts the fullest amount of PUNGENCY with the FINE GINGER AROMA and FRUITY FLAVOURS of the LAST-MENTIONED ESSENCE.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

HAY'S GINGER ALE ESSENCE

HIGHLY CONCENTRATED.

This Essence is a complete Bouquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.

TRADE PRICE, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

GINGER ALE EXTRACT

Supplies Pungency, Aroma, Colouring and Flavouring.

Price 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

W. HAY, MANUFACTURING CHEMIST,
4 REGENT'S TERRACE,
ANLABY ROAD, HULL.

AGENTS,

Messrs. HEARON, SQUIRE & FRANCIS,

Wholesale Druggists,

5 COLEMAN STREET, LONDON, E.C.

Established 1857.] **BISHOP'S** [Granular Effervescent.

CITRATE OF CAFFEINE.

THE BEST KNOWN REMEDY FOR HEADACHE.

This Salt has been most extensively used as a remedy for sick headache, and with such great success that it may almost be called a specific. It relieves all disorders of nerve-function, and is at the same time most cooling and refreshing.

BISHOP'S GRANULAR EFFERVESCENT CITRATE OF CAFFEINE is sold in bottles at 2s. 6d. each. With each bottle is supplied a wooden Measure Cup, which when filled, but not heaped, gives an exact dose. The Granular Effervescent Citrate of Caffeine should be taken at the commencement of an attack of headache, and the dose should be repeated in an hour if any pain should remain. Testimonials from the most eminent medical men in the profession enclosed with each bottle.

An Eminent Birmingham Physician writes:—"I like the EFFERVESCENT CITRATE OF CAFFEINE prepared by Bishop very much. It is a particularly valuable medicine as a morning restorative; and after brain exhaustion, or where sedentary occupations have reduced the tone of the system, it may be taken with perfect safety and great advantage."

The Lancet:—"The excellence of Mr. Bishop's preparations is well known."

British Medical Journal:—"The name of Mr. Bishop is a sufficient guarantee to the profession that the article is skilfully prepared."

Observe that the Name, Trade Mark, and Address of the Maker is on each Bottle.

Established 1857.] **BISHOP'S** [Granular Effervescent.

CITRATE OF MAGNESIA.

ALFRED BISHOP, 17 Speck's Fields,
Mile End New Town, London,

Respectfully reminds the trade the he **Originally Invented and Prepared the Granular Effervescent Citrate of Magnesia.** Since 1857 he has never ceased personally to superintend its manufacture, and the marked superiority of his brand over that of all the imitations in the market is admitted. The materials employed are uniformly of the highest quality; the granules are handsome in appearance and perfectly soluble, and the genuine preparation yields a draught which, as a cooling and refreshing saline beverage of peculiarly pleasant flavour, is instantly distinguishable from the imitations.

Established 1857.] **BISHOP'S** [Granular Effervescent.

CITRATE OF LITHIA.

The properties of Lithia are antacid, antilithic, and diuretic. Its low combining proportion causes a small dose of its salts to neutralize more acid than similar doses of the other alkalis. The Lithia preparations have been found invaluable in the treatment of uric acid in gouty diathesis; they have a strong affinity for uric acid, and the Citrate of Lithia is exceedingly soluble. The Citrate is less disagreeable to the taste, and less irritating to the stomach than the Carbonate of Lithia, and its advantages are heightened by the mode of preparation now advocated. It is extremely portable, and more economical than Lithia Water.

Respecting this preparation the following letter was received from S. BRIGGS, Esq., Ombersley House, Moseley Road, Birmingham:—

February 5, 1876.

"I have suffered very much from gout. Four years ago I was advised by a celebrated Physician to try Bishop's Citrate of Lithia. I have taken it at intervals since and have derived very much benefit from it. I have recommended it to many of my friends, who have also experienced its beneficial effects."

DR. CHORLEY, of Dover, writes:—"I find nothing keeps off the gout so well as your Citrate of Lithia, and I use great quantities of it myself."

IN BOTTLES, 1/6 AND 2/6 EACH.

Observe that the Name, Trade Mark, and Address of the Maker is on each Bottle.

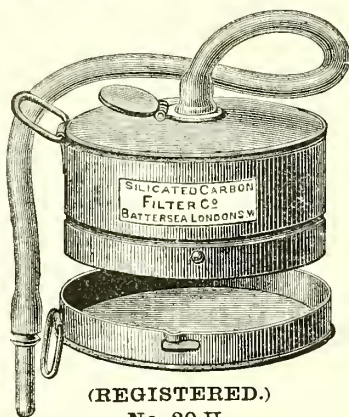
ALFRED BISHOP,
MANUFACTURING CHYMIST,
17 SPECK'S FIELDS, MILE END NEW TOWN,
LONDON.

NOVELTY. SILICATED CARBON POCKET FILTER,

IN GERMAN SILVER, NICKEL-PLATED.

Retailed at **FIVE SHILLINGS** each.

Designed by
MAJOR FRASER,
of the
ROYAL ENGINEERS,
especially
for Officers' Kits.
Weighs only 8 ounces.



(REGISTERED.)
No. 20 H.

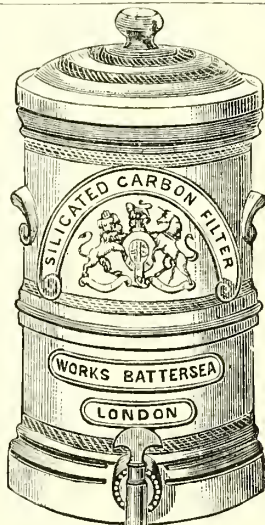
It has been approved
by the
Authorities at the
Horse Guards, and has
been largely
used in the Afghan and
Zulu Expeditions.

Sample sent free by Post on receipt of **FOUR SHILLINGS**.

DOMESTIC

Made in cream-coloured Stone-ware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.



FILTER, NO. 27.

PRICES.

					With Ice Compartment.
No. O,	capacity	$\frac{1}{2}$ gallon	10s. 6d.		
No. A,	"	1 "	14s. 6d.	...	17s. 6d.
No. B,	"	2 "	21s. 0d.	...	25s. 0d.
No. C,	"	4 "	32s. 0d.	...	36s. 0d.
No. D,	"	6 "	42s. 0d.	...	48s. 0d.
No. E,	"	8 "	52s. 0d.	...	60s. 0d.
No. F,	"	12 "	70s. 0d.	...	80s. 0d.

MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR
Mansions, Schools, Hospitals, Public
Institutions, Breweries, Distilleries,
Soda Water Manufactories,
Dye Works,

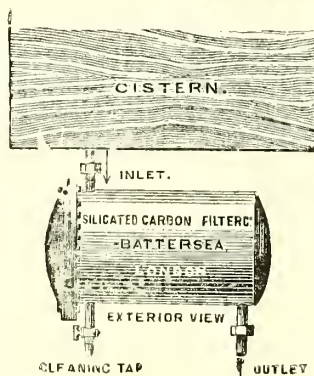
And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows:—

A, $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe	£6 6s.
B 1-inch pipe	£9 9s.
C, $1\frac{1}{2}$ -inch, $1\frac{1}{4}$ -inch pipe	£15 15s.
D, 2-inch pipe	£26 5s.



This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into
for Large Works, Institutions,
&c., &c.,

FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.
Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

SILICATED CARBON FILTERS.

YPHO FILTERS FOR TRAVELLERS.

By means of these filters pure and perfectly wholesome water may be drawn from any pond or stream by simply immersing the filter there and drawing the water through the tube by suction.



No. 20.

Each of these portable Filters may be

They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

- | | |
|---|------|
| -Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box | 2 6 |
| -Ditto, 3½ inches diameter, in best stoneware | 5 0 |
| -Ditto, " " " with silver-plated tap | 7 0 |
| -Emigrant 5 inches diameter, with silver-plated tap | 12 0 |
| -Pocket Filter, for carrying over shoulder, as supplied to the Forces Abyssinia and in Zululand, and to the Ashantee Expedition | 3 6 |
| -Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits | 5 0 |

used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

POROUS TERRA COTTA FILTER, NO. 29.

Shape of this Filter as Fig. No. 24.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

2in., 1s. 6d.; 2½ in., 2s. 6d.; 2¾ in., 3s.; 3½ in., 4s.; 4¾ in., 5s. 6d. ea.

SPECIAL QUOTATIONS FOR QUANTITIES.

PRIZE FILTER.

The Filter is constructed in the form and colour of an Etrurian Vase, having inside it a movable pan, into which the silicated Carbon filtering medium is fitted.



PATTERN NO. 23.

The exterior is made of Porous Ware, which acts with remarkable power as a Refrigerator, keeping the water deliciously cool. Capacity, about Two Gallons.

PRICE, WITH SILVER-PLATED TAP, £3 10s.

DINING-ROOM FILTER.

No. 22.

MADE IN MARBLED CHINA.

Size A holds about two gallons; size B, five gallons.

PRICES.

A	25s.
B	80s.
A, with Ice Compartment (New Patent.)	42s.
B, with Ice Compartment (New Patent.)	100s.

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.

REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

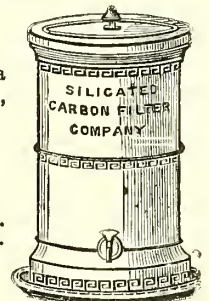
Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A

COOL DRAUGHT OF PURE WATER.

Price, with Silver-plated Tap 31s. 6d.
Ditto, ditto, with Ice Compartment 42s. 0d.
Capacity, Two Gallons.

Specially adapted for Tropical Climates.



PORTABLE FILTER, No. 34, for Travellers at Hotels, Families at the Seaside, Pic-nics, &c. Made in Marbled Porcelain, with Cover. Can be placed in a jug, decanter, or other vessel. Price 7s. 6d. each.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

Important Notice to the Trade.**HELLIAR'S FLY TICK & LEAR POWDER,**

For Dressing Sheep and Lambs.

ESTABLISHED 1857.

May be sold without Registration, as it contains no poison prohibited by Act. Sold in Tins at 1s. for 20, 2s. for 50, and 3s. 6d. for 100 Sheep, with full instructions for use.

IMPORTANT TESTIMONIAL from W. F. BENNETT, Esq., Chilmark, Salisbury.—"Your Fly Powder has been used on my flock some years, and I have always found it most efficacious in keeping off the fly and killing ticks; in fact, I have not dipped my lambs for the last two years.—Aug. 30, 1875."

1/- size, 9/-; 2/-, 18/-; 3/6, 31/6 per doz., carriage paid, discount 5 per cent. 3 months' account.

LONDON WHOLESALE AGENTS:—Barclays, Sangers, W. Edwards & Son, Hovenden & Sons. EXETER: Evans, Gadd & Co.

PREPARED ONLY BY

EDWIN HELLAR, Manufacturing Chemist,
YEovil, SOMERSET.

SILICATED CARBON FILTERS.

Prize Medals—PARIS, 1867. HAVRE, 1869.

ADOPTED, IN PREFERENCE TO ALL OTHERS, by the Admiralty, and used in the General Post Office, the London and Provincial Hospitals, and many Public Establishments in various parts of the World.

SILICATED CARBON FILTER COMPANY
CHURCH ROAD, BATTERSEA, LONDON.

See two pp. Advertisement in this No.

HORSES.—LIEUT. JAMES'S BLISTER

(Manufactured by R. J. JAMES, the Grandson of the Inventor).

This celebrated Blister is now offered to the Trade at the following reduced prices:—

1 oz. pots from	14/- per doz. to	12/6 per doz.	1 lb. pots from	£4 4 0 per doz. to	£4 0 0
2 " "	£1 5 6 "	£1 3 0 "	1 " "	7 16 0 "	7 10 0
4 " "	2 8 0 "	2 4 0 "			



Observe the Trade Mark.—"A Horse's Head on the top of each Pot, and the signature, R. J. James."

Wholesale Agents, IUTLER & CRISPE, 4 Cheapside; NEWBURY, 37 Newgate Street; MAW, SON & THOMPSON, 11 Aldersgate Street; HAYES & CO. Dublin; GOULDING, CORN; FOGGITT, Thirsk; and SANG & BARKER, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. JAMES, 15 Union Bank Buildings, Ely Place, London, E.C.

JAMES v. JAMES.—LORD ROMILLY, the Master of the Rolls, on February 23, 1872, declared "that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister."—R. J. JAMES.

ESTABLISHED 1833. HORSES.—LIEUT. JAMES'S BLISTER.**CAUTION.**

The annexed Label is at the top of every Pot of the ORIGINAL and only GENUINE BLISTER.

The Messrs. Barclay & Sons, 95 Farringdon Street, London, and Messrs. Raimes & Co., Edinburgh, Liverpool, and York, are now and have been Agents 45 years.



AGENTS:—Sutton & Co., 10 Bow Churchyard; W. Edwards & Son, 157 Queen Victoria Street; Newbury & Son, 37 Newgate Street; Evans, Lescher & Evans, Bartholomew Close; Burgoyne, Burdidges & Co., 6 Coleman Street; Lynch & Co., 171A Aldersgate Street; W. Mather, Farringdon Road, London, and Manchester; Tidman & Son, Wilson Street; Anger & Son, 150 Oxford Street; Millard & Sons, 40 Charterhouse Square; Barry & Soper, Shad Thames; A. A. Campbell, Leadenhall Street, London; Woolley, Sons & Co., 59 Market Street, Manchester; Apothecaries' Company, Virginia Street, Glasgow; Boileau & Co., Bride Street, Dublin; McMaster & Co., 121 & 122 Chapel Street, Dublin; Hunt & Co., 17 Westland Row, Dublin; Clarke & McMullen, Victoria Street, Belfast; D. Galbraith, Londonderry. And by all Chemists, in Pots, 1/6, 2/9, and 5/-.

COLONIAL AGENTS:—MELBOURNE and WELLINGTON: Felton, Rimwade & Co.; SYDNEY, BRISBANE, and LAUNCESTON: Elliott Bros. & Co.; DUNEDIN and AUCKLAND: Kempthorne, Prosser & Co.; CALCUTTA: Smith, Tanistreet & Co.

S. JAMES, 81 Years Sole Manufacturer, STANFORD, FARINGDON, BERKS.
Advertised in "Bell's Life" 45 years. Beware of a Spurious Imitation.

CASTOR OIL SHEEP OINTMENT.

The most effectual Cure of Scab, Killer of Ticks, Red Lice, & all other Parasites; also,

GENUINE SHEEP OINTMENT.

Prepared by steam power, and none but the best materials being used, these Ointments are uniform in strength, and the consistency most suitable for Smearing in hot or cold weather.

Sold in Drums of 4, 7, 14, 28, 56, and 112 lbs. each.

THE "GLYCERINE DIP"

(HARDWICKE, GUERIN, & CO.'S),

FOR SHEEP & LAMBS,

GREATLY PROMOTES THE GROWTH OF THE WOOL.

A certain Preventive and Cure of Scab, Destructive to Ticks, Lice, and all Parasites infesting the Skins of Sheep, Cattle, and other Animals. Price 6d. lb.

Sold in Drums of 5, 10, 20, 30, 40, 50, and 100 lbs. each.

THE ORIGINAL "LUDDINGTON'S OILS,"

THE CELEBRATED

HORSE, SHEEP, AND CATTLE MEDICINE.

Unrivalled as a Safe, Effectual, and Speedy Remedy for all Diseases in Horses, Sheep, and Cattle, and is invaluable in cases of DIFFICULT LAMBING, FOALING, and CALVING.

In Bottles, 2s. 6d., 5s., and 10s. each.

Price Lists on application to

TOMLINSON & HAYWARD,

MANUFACTURING CHEMISTS, LINCOLN.

Agents required in every Town. Hand-bills, Pamphlets, Posters, Show Cards, for these and their other preparations—BUTTER POWDER, "GRANULAR BROWNING," DANDELION COCOA—supplied on receipt of trade address.

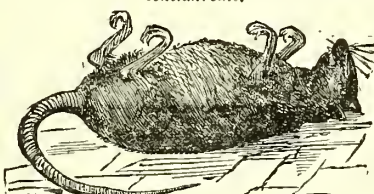
100 Rats destroyed for a Shilling by

BARBER'S PHOSPHOR PASTE.

WRAPPED NEATLY FOR THE COUNTER.

Handsome attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles,
&c.
THE DEAD VERMIN
DRY UP
WITHOUT SMELL.



Guaranteed the best
destroying Paste in
the world.

3d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.

SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.

Be not deceived with worthless imitations. Observe the Name !!

The VERMIN KILLER sent free by post at the following prices:

2d.	3d.	6d.	1s. 0d.
1s. 0d.	1s. 6d.	3s. 0d.	6s. 0d. .. Per Dozen.

The PHOSPHOR PASTE, at same prices. Carriage paid per rail for enclosure to any Wholesale House, or direct, for quantity of either Paste or Killer.

Special arrangements are made for Sole Agency with Chemists.

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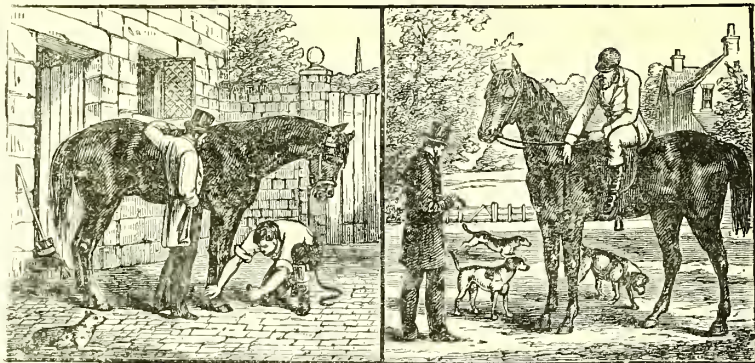
Special Quotations to Shippers. Supplied by all the London Wholesale Houses.

ELLIMAN'S ROYAL EMBROCATION
IN BOTTLES 2s 2s 6d & 3s 6d EACH

A CERTAIN CURE FOR

Broken Knees,
Sore Backs, Sore Shoulders,
Sprung Sinews, Overreaches,
Chapped Heels,
Windgalls, Lameness,
Indisposition.

PREPARED BY ELLIMAN, SONS & CO., SCOTCH.
ELLIMAN'S ROYAL EMBROCATION
is used in most Stables and in a large proportion of the
Stables of the Masters of Stag and Fox Hounds; among
others the Duke of Rutland; the Earl of Macclesfield;
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Lord Middleton; Duke of Buccleuch; Earl of Yarborough;
Earl of Shannon; Earl of Eglinton and Winton; Earl of
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Lame Hunter (Trade Mark.) The Royal Hunter Cured.
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SPRATTS PATENT MEAT "FIBRINE" DOG CAKES & POULTRY MEAL, DOG MEDICINES AND DOG SOAP.

TO CHEMISTS AND DRUGGISTS.

The above Goods have an enormous Sale. For Terms, address—

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Wholesale Agents for the Soap and Dog Medicines:—Barclay & Sons; Sanger & Sons; Sutton & Co.; F. Newbery & Sons; Lynch & Co., London; Raimes & Co., Edinburgh, York, and Liverpool; Ravensdale Mill Co., Dublin; Woolley, Sons & Co., Manchester; Taylor, Gibson & Co., Newcastle-on-Tyne; Goodall, Backhouse & Co., Leeds; and of all Wholesale Houses.

HORSE, CATTLE, AND SHEEP MEDICINES.



BY ROYAL APPOINTMENT.

DAY, SON & HEWITT,

INVENTORS AND SOLE PROPRIETORS OF THE



"ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS,

For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

Patronised for over 40 years by Royalty, and the principal Stock Breeders, Horse Proprietors, and Agriculturists of the British Empire.

The No. 2 MEDICINE CHEST contains the following matchless remedies:—

- "CHEMICAL EXTRACT," for all External Injuries, and Ewes Lambing.
- "GASEOUS FLUID," for Colic, Scour, or Diarrhoea, and Debility.
- "RED DRENCH," for Cleansing Cows and Ewes, and for Inflammation.
- "RED PASTE BALLS," for Mares after Foaling, and Conditioning Horses.
- "BRONCHOLINE," for Husk or Hoose in Sheep, Lambs, and Calves.
- "GASEODYNE," for Heaving and Paining, "CARMINATIVE CHALK," &c.

Price of Chest, with Guide to Farriery, £2 16s. 6d. No. 1 Complete Medicine Chest, in Polished Case, £6 6s.
Horsekeeper's Chest, No. 4, £2 17s. 6d.

CARRIAGE PAID TO ALL PARTS.

Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

Awarded "Certificate of Merit" by the National Agricultural Society of Victoria, Australia, Spring Exhibition, 1871; President's Medal, Spalding Show, July, 1872; Silver Medal, Manchester and Salford Show, November, 1874; Silver Medal, Preston Agricultural Show, June, 1875; Silver Medal, Northamptonshire Agricultural Society, Stamford Show, September, 1875; Silver Medal, Cheshire Agricultural Society, Crewe Show, September, 1875; Special Prize, National Agricultural Society of Victoria, Australia, November, 1875; Medal, Cheshire Agricultural Society, Cheshire Show, 1876; Silver Medal, South African Exhibition, Cape Town, 1877; Silver Medal, Northumberland Agricultural Society, Newcastle-on-Tyne Show, August, 1877; Silver Medal, Knutsford Show, July, 1878; Medal, North Berwick Show, July, 1878; Medal, Dairy Show, London, October, 1878; Silver Medal, Derby, September, 1879; Silver Medal, Wellingborough, September, 1879; and Medal, Benthams, September, 1880.

CAUTION.—Beware of low-priced Imitations, and see that the name of DAY, SON & HEWITT is on all Bottles and Packets.

Prepared only by DAY, SON & HEWITT, 22 DORSET STREET, BAKER STREET, LONDON, W.

And sold by Messrs. Burgoyne, Burdidges & Co., Barclay & Sons, W. Edwards, Newbery & Sons, Sanger & Sons, and all Wholesale Druggists, in London; Hood & Co., Melbourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co., Lancaster.

THORLEY'S FOOD FOR CATTLE.

SOLE ADDRESS—

Joseph Thorley, Thornhill Bridge, King's Cross,
LONDON, N.

This Celebrated Condiment is sold by Chemists, Druggists, &c.,
 in every town and village throughout the Kingdom.

TERMS ON APPLICATION.

Valuable Prizes awarded at the principal Fat Stock Shows, for
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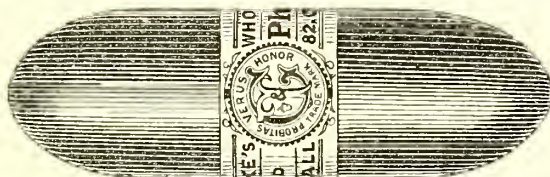
THORLEY'S FOOD FOR REARING CALVES AND YOUNG STOCK.

DRUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

GABRIEL & TROKE,

Wholesale and Export Druggists and Manufacturing Chemists,
 82 CITY ROAD, LONDON.

GABRIEL & TROKE'S REGISTERED CAPSULED HORSE BALLS,



Manufactured solely by GABRIEL & TROKE,
 WHOLESALE DRUGGISTS, 82 CITY ROAD,
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MANUFACTURERS OF ALL VETERINARY PREPARATIONS, EVERY KIND OF
 VETERINARY INSTRUMENTS AND SUNDRIES.
 SAMPLES AND SPECIAL QUOTATIONS FOR LARGE BUYERS.

The superior advantages of these Balls are obvious. The mass is confined in a hermetically sealed gelatinous Capsule, perfectly harmless, and immediately dissolved in the stomach. The Capsule will not only prevent the Ball from getting dry and hard, but will preserve its purity and power for any reasonable time, and ensure the effectiveness of the medicine—especially when such drugs as Camphor, Ammonia, or Essential

Oils are prescribed. These Capsuled Balls are most convenient and safe and well adapted for export, keeping good in any climate. They are put up in Boxes of 1 dozen each. Capsuled Balls of the most approved formulae on hand, and private recipes faithfully and accurately dispensed. Shipping orders promptly and carefully executed, and at lowest market prices. Price Lists of a very extensive character in the most handy referable style on application.

THE CONDY'S FLUID CO.,

7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR
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 FICTITIOUS ADDRESSES

W. H. BULLOCK

(FROM TREBLE & SONS),

MEDICAL SHOP FITTER AND SHOP FRONT BUILDER,

Air-tight Glass Show Case Maker. Manufacturer of every description of Shop and Window Fittings.

64 Brougham Road, Dalston, London, near Haggerstone Station, N.L.R.

Designs and Estimates upon Application.

CHEMIST'S BALANCE
 with Agate Bearings.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

PROTECTED IN GREAT BRITAIN, FRANCE, AND BELGIUM.

Under our recently Patented Improvements these Balances are now manufactured with Agate Bearings in place of Steel. Being incorrodible they are not affected by acids, and are far more durable and turn much finer.

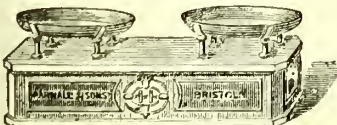
Made in all sizes and varieties from 2 lb. to 60 lb., suitable for all trade purposes.

Drawings and Prices on application. Special Terms to Shippers and Wholesale Dealers.

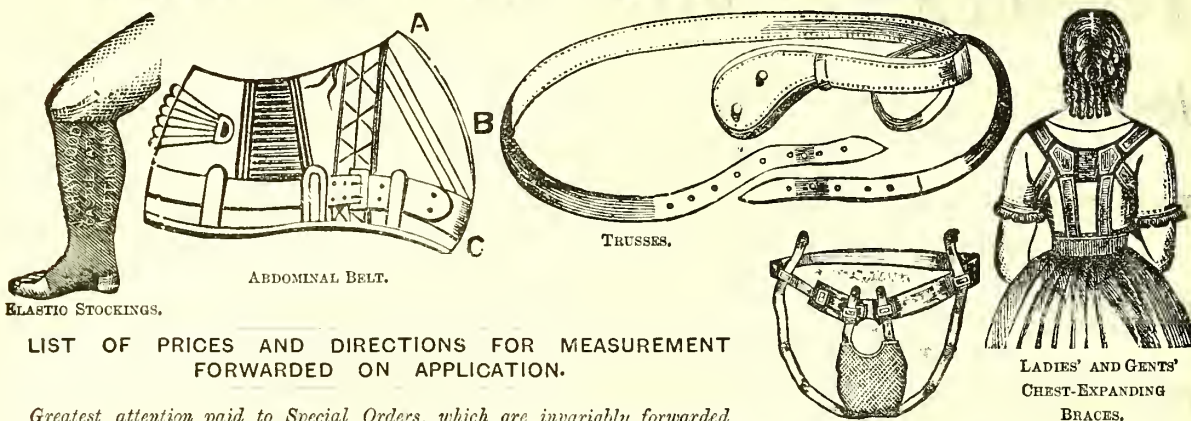
Please Address
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PARNALL & SONS, 21 and 22 Narrow Wine Street, BRISTOL.

Established
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HAYWOOD'S SURGICAL APPLIANCES.



LIST OF PRICES AND DIRECTIONS FOR MEASUREMENT
FORWARDED ON APPLICATION.

*Greatest attention paid to Special Orders, which are invariably forwarded
per return of post.*

J. S. HAYWOOD, Castle Gate, NOTTINGHAM.

GENUINE CONDY'S FLUID.

The GENUINE CONDY'S FLUID of proper composition and strength always contained, in addition to its disinfecting properties, certain antiseptic salts, greatly enhancing its value when used. This is only manufactured by the undersigned.

CAUTION.—To avoid Fraudulent Imitations every Label should bear the Fac-simile Signature of the Inventor and Address as under.

When Chemists order my Disinfecting Fluid they should see that they get the proper article.

H. Bollmann Condy

INVENTOR, PATENTEE, AND MANUFACTURER, BATTERSEA, LONDON, S.W.

ESTABLISHED A QUARTER OF A CENTURY.
AWARDED 53 GOLD AND SILVER MEDALS BY VARIOUS AGRICULTURAL SOCIETIES.

TIPPER'S MEDICATED POWDERS,

Specially prepared for Horses, Cows, Pigs, Sheep, and Poultry. They surpass anything ever introduced, preserve health, strength, and condition, cure Coughs, Colds, Worms, &c., and are the best known preventives of disease. Will keep in any climate. Sold in 1s., 4s., 12s., and 24s. Canisters.

TIPPER'S DOG (MEAT) BISCUITS,

Keep Dogs in good condition and free from disease.

TIPPER'S MILK SUBSTITUTE,

For rearing Calves without Milk, and improving their condition.

These are the only preparations of the kind manufactured by a qualified Veterinary Surgeon.

B. C. TIPPER & SON, M.R.C.V.S., BALSALL HEATH, BIRMINGHAM.

BATTLE'S VERMIN KILLER.



{ Mice eat it readily, and
Die on the spot.

Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published.

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Flemington Mills.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 6th, 1857.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.

No Chemist or Storekeeper should be without a supply.

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FICTITIOUS ADDRESSES.

GENUINE EMERY, EMERY CLOTH, AND BLACK LEAD.**JOHN OAKEY & SONS,**

MANUFACTURERS OF

Glass Paper, Emery and Glass Cloth; Emery, Black Lead, Pumice, Putty Powder, Crocus, Urn Powder, Tripoli, Rouge, Plate Powder, Steel Polish, Furniture Polish; Knife Boards, Brunswick and Berlin Black, &c.

OAKEY'S WELLINGTON KNIFE POLISH,

Prepared expressly for Oakey's Patent India-Rubber Knife Boards, Buff Leather Boards, and all the Patent Knife Cleaning Machines. Sold in Packets 3d. each; and Tins, with perforated Tops to prevent waste, 6d., 1s., 2s. 6d., and 4s. each.

OAKEY'S NON-MERCURIAL SILVERSMITH'S SOAP,

For Cleaning and Polishing Silver, Plate Glass, Marble, &c. Tablets, 6d. each.

OAKEY'S POLISHING PASTE,

For Cleaning Brass, Copper, Tin, Pewter, &c., &c. Pots, 6d. and 1s.

WELLINGTON BLOCK BLACK LEAD,

In 1d., 2d., and 4d. Blocks, and 1s. Boxes.

WELLINGTON EMERY & BLACK LEAD MILLS, Westminster Bridge Road, London, S.E.

Highest Award and Prize Medal, Philadelphia Exhibition, 1876.

DIPLOMA OF MERIT, VIENNA EXHIBITION, 1873.

Joseph Pickering & Sons (J. Late Needham), Albion Works, Sheffield,
MANUFACTURERS OF

Needham's Polishing Paste,

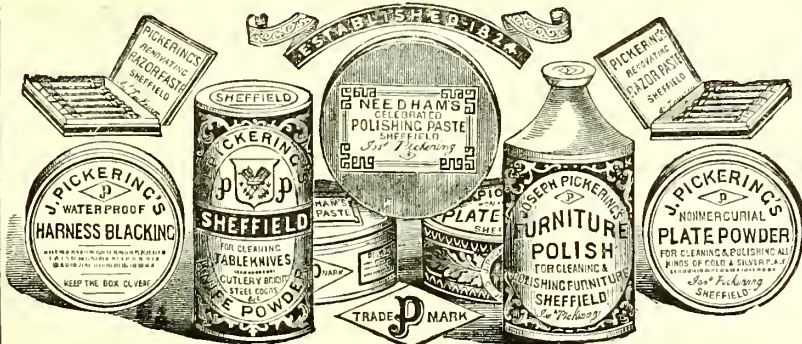
For Cleaning Brass, Copper, and Britan Metal Goods, &c.

Pickering's Razor Paste,

For sharpening Razors, &c.

Waterproof Harness Blacking,

For Black Leather Harness.



SOLD BY ALL CHEMISTS, GROCERS, IRONMONGERS, ETC.

Sheffield Knife Powder,

For Table Knives, Fire Irons, &c.

Plate Powder,

For Electro-plate Articles, &c.

Furniture Polish,

For cleaning French Polished Furniture, &c.

Brunswick

Black,

For all kinds of Iron Work.

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H. BESSEMER'S GOLD PAINT,

RETAIL PRICES:—

Small Bottles of Gold with Liquid	1s. 6d.
Medium " " & Bowl & Brush	2s. 6d.
Large Bottles of Gold	3s. 6d.
" " Liquid	0s. 6d.

To be obtained of all Chemists, Artists' Colourmen, and Druggists' Sundriesmen.

NEW 1/6 & 2/6 PACKETS.

CONTENTS:—1 Bottle Gold Powder, 1 Bottle Mixing Liquid, 1 Mixing Bowl, 1 Brush, in Cardboard Box.

Where the Bowl and Brush are not required, the usual 1/6 Packet should be purchased, as it contains a large quantity of both Gold and Liquid.

COPPER AND SILVER PAINT, AT THE SAME PRICES, AND YIELDING EQUALLY GOOD RESULTS, CAN BE OBTAINED.

SOLE PROPRIETOR AND MANUFACTURER,

RICHARD J. ALLEN,
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LONDON, N.W.

Translations are supplied, Circulars, Cards, or Labels will be printed in any language necessary for its sale.

Goddard's Plate Powder

For nearly Half a Century this Powder has sustained an unrivalled reputation throughout the United Kingdom and the Colonies as the BEST and SAFEST article for Cleaning Silver and Electroplate.

Sold in Boxes, 1s., 2s. 6d., and 4s. 6d. each. Also

GODDARD'S FURNITURE CREAM,

Sold by all Patent Medicine Houses and Wholesale Druggists,

Manufactured by J. GODDARD, Station St., Leicester.

FOR CLEANING PLATE.

BRADLEY & BOURDAS'S ALBATUM or WHITE ROUGE,

For Cleaning Gold, Silver, and Plated Goods.

Since its introduction as a substitute for the ordinary Rouge, a quarter of a century ago, the sale has amazingly increased both at home and abroad. A trial is only needed to prove its superiority over other plate powders in use. Sold in Boxes at 1s. and 2s.; Tins, 6s. 7 Pont Street, Belgrave Square, and 48 Belgrave Road, London, S.W.

PATENT PLUMBAGO

(SOLE MANUFACTURERS OF

EXHIBITION AWARDS:—

Paris, 1878, Gold Medal.

Only Medals in London, 1862. Dublin, 1865. New Zealand, 1865. Oporto, 1865.

Paris, 1867, only First-Class Medals (Silver). Havre, 1868 (Silver). Amsterdam, 1869 (Highest).

Moscow, 1872, only First-Class (Gold).

Philadelphia Centennial Exhibition, Medal.

CLAY CRUCIBLES, ETC.

EXTERIOR DIMENSIONS.

Attention is drawn to the description on the Crucibles below, and in ordering these particulars should be given to prevent errors and disappointments.

BATTERSEA ROUND.

Stamped as on Illustration.

No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.	No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.
A	2½	1½	£0 0 5	0/6	B	3	1½	£0 0 6	0/6
C	3½	2¼	0 0 9	0/6	D	4	2½	0 0 10	0/6
E	4½	3¼	0 1 4	0/9	F	5	3	0 1 5	1/0
G	5½	4¼	0 2 0	1/0	H	5½	3½	0 2 1	1/3
J	6	5	0 3 0	1/6	K	7	4	0 3 2	2/0
L	8	6½	0 6 6	2/0	M	8½	5	0 6 6	2/6
N	9	7½	0 9 0	3/0	O	10	7	0 13 6	3/6
P	11	9½	0 15 0	3/6	Q	12	8½	0 17 0	4/0
R	13	9½	1 3 0	5/0					

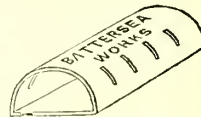
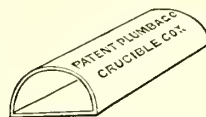
The above 9 sizes form one nest. Price 60/0 per dozen nests. Any size can be had separately.

The above 8 sizes form one nest. Price 45/0 per dozen nests. Any size can be had separately.



MUFFLES.

With or without apertures.



No.	Long, in.	Wide, in.	High, in.	Price, per doz.	No.	Long, in.	Wide, in.	High, in.	Price, per doz.
A	7	3½	2½	12s.	G	11	4	3½	21s.
B	7½	4½	2½	15s.	H	10½	5½	3½	25s.
C	8	4½	3	18s.	J	12	6	4	33s.
D	8½	5	3½	21s.	K	14	8	5	48s.
E	9	5½	3½	24s.	L	16	9	6	54s.
F	10	6	4	27s.					

Sizes A to F are suited for the Furnaces of the same letters.

H to L have one slit at back only, none at sides.

In addition to those priced above, Muffles are made of all shapes and sizes, suitable for Assayers, Enamellers, Dentists, &c.

BATTERSEA TRIANGLE.

Stamped as on Illustration.

No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.	No.	Height, inches	Width, inches	Crucibles, per doz.	Covers, per doz.
S	4½	4½	£0 2 0	1/0	T	4	3½	£0 1 6	1/0
U	3½	3½	0 1 1	0/9	V	3½	2½	0 0 10	0/9
W	2½	2½	0 0 8	0/6	X	2½	2	0 0 6	0/6
Y	2½	2½	0 0 5	0/6	Z	1½	1½	0 0 4	0/6

The above 4 sizes form one nest. Price 4/2 per dozen nests. Any size can be had separately.

The above 4 sizes form one nest. Price 3/2 per dozen nests. Any size can be had separately.



The BATTERSEA ROUND and TRIANGLE forms are particularly well suited for packing, being made to nest, ensuring great economy in freight and shipping charges.

SCORIFIERS.

(PER GROSS.)

Inches Diam.	Price.	Inches Diam.	Price.
1	3s. 0d.	2½	6s. 0d.
1½	3s. 6d.	3	7s. 6d.
1½	4s. 0d.	3½	9s. 0d.
2	4s. 6d.	4	10s. 6d.
2½	4s. 6d.	5	12s. 0d.
2½	5s. 0d.		



ROASTING DISHES.

No.	Diam. in.	Per doz.	No.	Diam. in.	Per doz.
1	2½	1s. 3d.	3	4	1s. 9d.
2	3	1s. 6d.	4	5	2s. 0d.



ASSAY CRUCIBLES.

THE MINT OF THE UNITED STATES AT SAN FRANCISCO,
OFFICE OF THE ASSAYER,

SAN FRANCISCO, CAL., April 19, 1877.

SIRS,—I have tested and used the Assay Crucibles and Annealing Cups, and can with assurance recommend their superior quality and durability.

Respectfully yours, &c.,

O. D. MUNSON, Assayer.

STATE ASSAY OFFICE,

SAN FRANCISCO, May 1, 1877.

We have given the Crucibles and Muffles a fair trial, and can recommend them for use of Assayers and Chemists.

Yours, &c.,

FALKENAU & REESE.

1.—FOR GOLD.

THESE ARE PERFECTLY SMOOTH, AND OF THE CORRECT POROSITY.

No.	Diam. in.	Height, in.	Per doz.
A.	1½	1½	2s. 0d.
B.	1½	1½	2s. 0d.
C.	1½	1½	2s. 0d.
D.	1½	2	2s. 0d.

Covers for either size, 6d. per doz.

2.—FOR COPPER.

CORNISH FORM AND QUALITY.

Nest of Two	3½ in. high, 3 in. diam.	2s. per doz.
Single	2	2s. 0d.
	2½	1s.

All Forms and Sizes can be had.



Among the English Firms who have received Awards at the Centennial, Philadelphia, are the Patent Plumbago Crucible Company,

Battersea Works, London. for Jewellers' and Chemists' Furnaces, Muffles, Crucibles, and Scorifiers.—*Chemist and Druggist.*

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THE PATENT PLUMBAGO CRUCIBLE COMPANY,

CRUCIBLE COMPANY

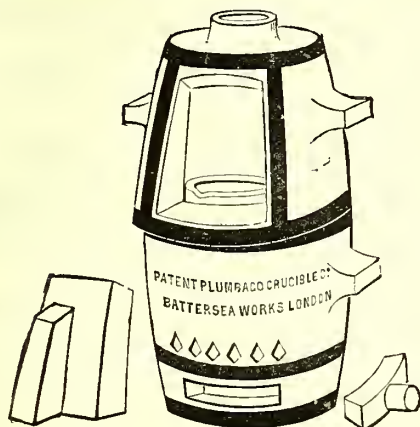
(MORGAN'S PATENT CRUCIBLES).

PORTABLE FURNACES.

IRON BOUND. EXTERIOR DIMENSIONS.

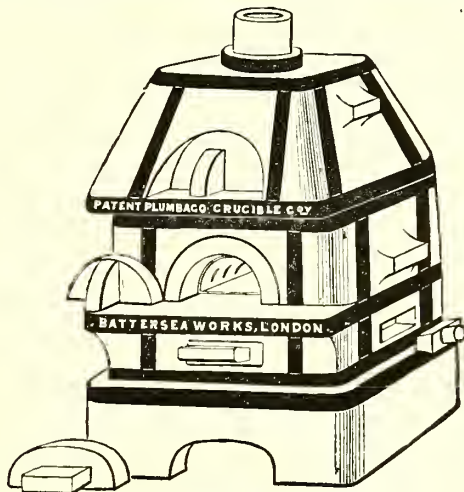
For MELTING GOLD, SILVER, COPPER, &c.

For ASSAYING, DENTAL WORK, &c.



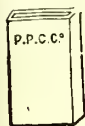
No. 1.

Melting Furnaces	Diam.	Height	For a Morgan's Patent Crucible	Price
No.	in.	in.	No.	£ s. d.
A	9½	17½	2	1 0 0
B	9½	20	4	1 5 0
C	11	22	6	1 10 0
D	13½	26	8	2 5 0
E	14½	28	12	3 0 0
F	18	32	16	4 0 0



No. 2.

Muffle Furnaces	Diameter	Height	Furnace
No.	in.	in.	£ s. d.
A	12½	24½	2 0 0
B	13½	25½	2 5 0
C	14½	27	2 10 0
D	15½	28½	3 0 0
E	16½	29½	3 10 0
F	17½	30	4 0 0



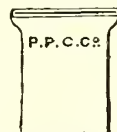
FLAT.

POROUS BATTERY CELLS

RED OR WHITE.



ROUND.



FLAT, WITH EARS.

Diam. 1 in., length 3 in., 1/ per doz. Diam 1½ in., length 3 in., 1/6 per doz.
 „ 1½ in., length 3 in., 1/6; 4 in., 2/; 4½ in., 2/; 5 in., 2/6; 5½ in., 3/; 6 in., 3/;
 „ 1½ in., length 4 in., 2/; 4½ in., 2/6; 5 in., 3/; 5½ in., 3/6; 6 in., 3/6;
 „ 2 in., length 4 in., 2/6; 4½ in., 3/; 5 in., 3/; 5½ in., 3/6; 6 in., 4/;
 „ 2½ in., length 4½ in., 3/; 5 in., 3/; 5½ in., 3/6; 6 in., 4/; 6½ in., 4/6;
 7 in., 4/6; 7½ in., 5/; 8 in., 5/; 9 in., 5/6; 10 in., 6/ per doz.

Diam. 2½ in., length 4½ in., 3/; 5 in., 3/6; 5½ in., 3/6; 6 in., 4/; 6½ in., 4/6;
 7 in., 4/6; 7½ in., 5/; 8 in., 5/; 9 in., 5/6; 10 in., 6/6 per doz.
 „ 2½ in., length 6 in., 4/6; 6½ in., 5/; 7 in., 5/; 7½ in., 5/6; 8 in., 5/6;
 9 in., 6/6; 10 in., 7/; 12 in., 8/ per doz.
 „ 3 in., height 6 in., 5/; 6½ in., 5/6; 7 in., 5/6; 7½ in., 6/; 8 in., 6/;
 9 in., 7/; 10 in., 7/6; 12 in., 8/6 per doz.
 „ 3½ in., length 6 in., 5/6; 6½ in., 5/6; 7 in., 6/; 7½ in., 6/6; 8 in., 7/;
 9 in., 7/6; 10 in., 8/6; 12 in., 10/ per doz.

FLAT, all with Ears except those Numbers with *

No.	Hght.	Width	Depth	Price	No.	Hght.	Width	Depth	Price	No.	Hght.	Width	Depth	Price	No.	Hght.	Width	Depth	Price
1*	4½	2½	1½	4/	15*	6½	4	1½	8/	29	6½	4½	8	8/	43	5½	3	1	6/
2	4½	2½	1½	4/	16	6½	4½	1	10/	30	6½	5½	1	14/	44	5	3	1½	6/
3	4½	2½	1½	4/	17*	7½	6½	1	18/	31	7½	5½	1	14/	45	8½	7	1½	20/
4	4½	2½	1½	4/	18*	8½	5½	2½	18/	32	8½	5½	18	14/	46	5½	4½	1	8/
5	4½	2½	1½	4/	19*	10½	6½	1½	24/	33	8½	7½	18	20/	47	6	6½	1½	12/
6*	5½	2½	1½	5/	20*	14½	8	2	36/	34	7½	4½	18	12/	48*	4½	8½	1½	4/
7	4½	2½	1½	4/	21	5½	3½	8	6/	35*	4½	2½	18	4/	49*	4½	3½	1½	3/6
8	4½	2½	1½	4/	22	7	4	1	12/	36	5½	4½	18	8/	50*	5½	4½	1½	4/
9	4½	2½	1½	4/	23	4½	2½	1	4/	37	5½	3½	18	6/	51	6	3½	1½	6/
10	4½	2½	1½	4/	24	4½	4½	1	8/	38*	6	4	18	8/	52	5½	3½	1½	6/
11	4½	3	1	6/	25	4½	5½	1	10/	39*	4½	2½	18	4/	53*	4½	3½	1½	3/6
12*	5	3	1	5/	26	5½	4½	1	8/	40	4½	3½	18	4/	54*	4½	4½	1½	4/
13	5½	3½	1½	6/	27	4½	2½	1	4/	41	4½	2½	18	4/	55	7½	3½	1	10/
14*	4½	4½	1½	4/	28	6½	3½	1	8/	42*	6½	4	18	8/	56	5½	3½	2	6/

ALL SIZES MADE TO ORDER. SPECIAL QUOTATIONS FOR LARGE QUANTITIES.

APPLICATION TO
BATTERSEA WORKS, LONDON, S.W.

COLTHURST & HARDING,

TEMPLE GATE, BRISTOL,
IMPORTERS OF

Petroleum, Benzoline, Gasoline, Turpentine,

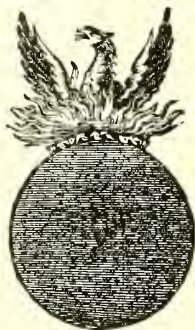
OLIVE, COLZA, COD, CASTOR, SEAL, WHALE, & SPERM OILS,
TALLOW, PITCH, TAR, ROSIN, &c.

MANUFACTURERS OF

WHITE LEAD, PAINTS,
OF ALL

Soft Soap, Greases, Linseed
PAINTS IN TINS

TRADE
Ball denotes



COLOURS, AND VARNISHES
KINDS.

Meal, and Crushed Linseed.
MIXED FOR USE.

MARK.
Colour of Paint

All Colours in 1, 2, 4, and 7 lbs.

VARNISHES OF ALL SORTS IN TINS OF ALL SIZES.

The XLCR DISINFECTING POWDER,

Guaranteed to contain 18 to 20 % of Carbolic Acid.

The XLCR

PASTE, ROLL, LIQUID, & TIN
BLACKING,

THE BEST IN THE TRADE.

The XLCR

WATERPROOF BLACKING.

The XLCR

JET BLACK, BLUE BLACK, &
COPYING INKS.

The XLCR

KID REVIVER & KID CREAM,
&c., &c.

MORRIS & GRIFFIN, MANUFACTURING CHEMISTS, CERES WORKS,
WOLVERHAMPTON.

ESTABLISHED 1821. WHOLESALE PRICE LIST UPON APPLICATION.

IMPORTANT TO CHEMISTS.

GREAT REDUCTION.

SEABURY & JOHNSON

HAVE CONCLUDED TO REDUCE THE PRICE OF

INDIA RUBBER

POROUS STRENGTHENING PLASTERS

TO £1 10s. Od.,

CAPSICUM POROUS PLASTERS

TO £2 0s. Od.,

SUBJECT TO USUAL DISCOUNT.

Every Plaster warranted to give perfect satisfaction.

A NEW CATALOGUE of our SPECIALTIES will be issued early during the NEW YEAR, 1881, containing a complete assortment of our

INDIA RUBBER, POROUS, AND SPREAD PHARMACOPŒIA AND SURGICAL PLASTERS, AND ANTISEPTIC DRESSINGS.

When ready a Copy will be sent to every Chemist in the United Kingdom.

Very truly yours,

SEABURY & JOHNSON,

1 & 2 AUSTRALIAN AVENUE, LONDON, E.C.

ENO'S "FRUIT SALT,"

"FRUIT SALINE," OR "FRUIT POWDER."

ENO v. STEPHENS IN THE COURT OF CHANCERY.

Shorthand Writer's Notes of Vice-Chancellor Bacon's Summing-up and Judgment.

Sir HENRY JACKSON, Q.C., on proceeding to sum up in detail on the evidence and arguments in the case, was stopped by the VICE-CHANCELLOR in the following words:—

Sir Henry Jackson, I do not think I ought to trouble you. The case has been discussed at very great length. I confess somewhat to my astonishment when Mr. Hemming declined to adopt the evidence as it was before the Court of Appeal, and put the Plaintiff to prove by the same evidence the same facts which had been proved before, I was under the impression that he meant to call witnesses on his own behalf. If that had been, as it probably may have been his intention at that time, there would have been a reason perhaps for repeating over again at very great length and considerable expense, of course to somebody, the evidence upon which the Court of Appeal had acted—I say nothing about what was done in this Court, but the Court of Appeal had acted upon that evidence. The case, however, concludes, and no evidence whatever is adduced by the Defendant—not even his own statement in his Defence is verified by his own affidavit. What is to be done with a case like that? The whole principle of the case was decided upon the first occasion. The Court of Appeal thought it right to adopt that restriction which I had thought it right to adopt, not to extend the Injunction further than the then present exigency of the occasion required. Not one word of the judgment of the Court of Appeal shows that there should be any restriction, or that there should be any restriction when the case came on for hearing. Now it comes on for hearing upon precisely the same evidence, and the evidence, among other things, is, that in the circular which accompanies this bottle of Salt, the words to which the Plaintiff particularly objects are repeated by the Defendant, and repeated by means of copying the Plaintiff's circular. Mr. Giffard says nobody buying the bottle would think of looking at the circular, for it is enclosed in the wrapper, and not even visible to the eye. But the case is one in which the Plaintiff complains of the general similarity and the general appearance of the names which are used by the Defendant, and if a purchaser entertained any doubt, if he was puzzled for a moment between "Vinous" or "Vinous," and Eno's—the sounds being, in one mode of pronunciation, very much alike—if he opened the wrapper and read the circular he would say, My doubts are removed; this is what I want—I want Fruit Saline, and here it is—the circular says it is "Fruit Saline."

The Defendant in his statement at the end of the fourth paragraph says he has not "at any time since the month of August, 1877, used the words Fruit Saline, or Fruit Powder, in any label or advertisement or otherwise in connection with the sale of the said preparation." Under the old system if a defendant had put in his answer, as he must, upon oath, he might perhaps have read that passage and said "the Plaintiff's allegation in that respect is denied." The Defence is not put in on oath and the Defendant declines to pledge his oath to that fact. But it does not rest there; for the evidence is clear and conclusive that after the month of August, 1877, when the Plaintiff, not without some degree of forbearance, as it seems to me, was content to take the Defendant's word that he would not repeat that offence which the Plaintiff complained was doing him that injury which he thought he was suffering, he did, in spite of his promise, repeat that which the Plaintiff called an offence and believed to be an injury to him. The case comes to a hearing, the Defendant insists upon the Plaintiff proving his case. At the Defendant's instance the Plaintiff has proved his case, and, among other things, has proved the utter falsehood of that Defence which is set up in the paragraph which I have read. The matter, therefore, is wholly without doubt, without defence, without excuse of any kind that I can perceive, because, when I am told that I must consider what the intention of the parties was, and when I am told, moreover, that there is no evidence that anybody has been deceived, and the Defendant in his defence says nobody has been deceived, his intention to deceive is not contradicted. That is what the Plaintiff imputes to him; and that is what, I think, the Plaintiff establishes not only from the simplicity of the sign, but from the fact that, when the complaint was first made in August, 1877, they were words which the Defendant admitted he had no right to use. For what reason? Because they were calculated to deceive—calculated to represent the Defendant's goods as those which the Plaintiff was selling under the title which he had adopted.

Upon the general case, therefore, in my opinion, the matter is beyond all doubt. It is proved that the use of the word "Fruit" with other substantives, "Saline" and "Salt," and so on, has been made by the Defendant since the time when he promised not to make it, when he admitted it was unlawful, and which I have no doubt whatever was wholly unlawful. It is said that he endeavoured to keep his promise by pasting something over the word "Fruit." Well, if that meant anything it is a plain admission of the justice of the Plaintiff's claim in that respect. But how can I consider that that is keeping his promise? Whether that pasting over was to be effectual or not would depend upon the consistency of the paste or glue, or perhaps the humidity of the atmosphere or any other accident. That there

was no intention to perform his promise, I am satisfied of, and that there has been no performance of his promise I think is clear.

Upon the general case, therefore, I think the Plaintiff is entitled not only to the Injunction in the terms of the Interlocutory Order, but upon those more extensive terms which the Plaintiff asks, by his claim, should be applied to the Defendant's infringement of his rights.

Then there is another subject which is so intimately connected with that that I desired to hear them both together, and I am very glad I did, because, as Mr. Giffard has just told me, that is the main question in dispute between the parties. For the Injunction the Defendant does not seem to care much, though he has violated it, in my opinion, plainly; but he says the question is whether there is a title to register this Trade Mark for which the Defendant proposes to apply. Now that depends upon the words of the Act of Parliament which have been used, the more important of which are "so resembling as to be calculated to deceive." That is a question not to be decided by eyesight; I am invited to lay these two devices side by side, and, since they are not identical and since there are great differences in their external appearance, to decide that they are not calculated to deceive. To that word DECEIVE I have no right to criticise or quarrel with; it is used in the Act of Parliament, and if I were to give one sense to it, it is plainly in my judgment calculated by the Defendant, meant and intended by him, to deceive any person who is not vigilant enough either in eye or in ear to detect at once the difference between Vinous and Eno's, and the difference between Fruit Salt and any other salt, Eno's title being plainly upon his Trade Mark, Eno's Fruit Salt.

It is not, as I have said, his sight; it is not by the use of a microscope; it is by any other means of detecting more or less of resemblance that you can decide a question which the statute contemplates by using the words that I have referred to. But it is whether the Registrar, whose office it is to register, is satisfied before he performs his function by registering the mark, that the applicant's mark does so resemble as to be calculated to deceive. Can any living man doubt that it is not only calculated—that is intended—but that it is also calculated—that is to say, meant and contrived for the purpose of deceiving—else why does he do it? The world is wide, as has been said in the judgment referred to, and all things in the animate and inanimate world are open to the Defendant to make a device which shall distinguish his goods from those of any other person. But the Plaintiff having appropriated to himself, and enjoyed for years a device in which the principal characteristic consists of a bunch of grapes, with a Latin motto, and the specific description which relates to Eno's Fruit Salt, the Defendant proposes to register a design in which the principal device is the stem of a vine with a bunch of grapes and some leaves, and a Latin motto around it, and it is to be called "Vinous Salt." If there was nothing in the case but the contrast of these two things, it might, perhaps, to some persons, who trusted only to their eyes, be said there was no resemblance between them, or no sufficient resemblance; but the Registrar is bound to take the whole case into his consideration; he is not to be balked by any mere similarity or dissimilarity. That is not the way that the Court of Appeal, in the latest case that was before it—the Sheffield case—dealt with the question. The Defendant there had as good a right as anybody in the world could have to stamp his own crest or coat of arms, or anything else, upon his commodities. Nobody could dispute it, and nobody, putting the two things together, could say they were so much alike as to deceive. Mr. Hemming insisted that the stamping, being made on a hard metal, was likely to be blurred, and the persons to be deceived. I have a very clear recollection of that case, and I say it would be impossible for a man with eyes, or with one eye, in his head to mistake the device in that case for the device which the Plaintiff desired there to be registered.

Mr. HEMMING:—Your Lordship will pardon me, I was only quoting the Master of the Rolls.

The VICE-CHANCELLOR:—I know, and have also clearly in my mind what the Master of the Rolls said and what he did not only in the "Dog and Porridge Pot" case, but in that case. The Master of the Rolls' judgment takes a wide and comprehensive view of the subject. He refers to the statute only for the purpose of verifying and corroborating that view, but what he said was "an honest man who wants to mark his goods never thinks of taking the device partly or wholly which some other tradesman is employing for the purpose of marking his goods," and that I take to be the true principle of the case.

And, taking all these things together, the Plaintiff's evidence in the first place, the total absence of evidence or statement on the part of the Defendant, excepting the ingenious and elaborate statements which Counsel have addressed to me, there being no statement whatever by him at any time except that he admitted he had done wrong in using the word "Fruit," I am asked to say that there is no such resemblance between these two devices as, between those two men, are calculated in reference to the commodities tendered in the shape in which they are sent into the world. I think I should be wasting time if I observed further upon it. It is to me clearly manifest not only that there is sufficient resemblance to answer the strictest words of the statute, but that there is a resemblance which has been carefully and intentionally calculated to deceive. And as the Defendant will not pledge his oath to a contrary intention I cannot come to a contrary conclusion than that the injunction ought to go in the terms in which the bill prays for it, extending it therefore beyond the Injunctions granted on the Interlocutory Order and upon the motion, to say that the Defendant is not entitled to register the device of a bunch of a vine with a bunch of grapes upon it, and a Latin motto on it and the name "Vinous Salt." There is an end of it therefore.

Sir HENRY JACKSON:—Well, my Lord, of course I must have the costs of the case. The VICE-CHANCELLOR:—You must have the costs of both.

Other attempted infringements of J. C. ENO'S rights have been stopped by legal intervention, and J. C. ENO publishes the above Judgment in extenso in the hope of deterring all further attempts at similar piracy. He is determined, however, to take legal proceedings without further notice against any one who may hereafter seek to infringe his rights.